

**Proposed Improvements to
US 158 (Shortcut Road), from East of NC 34 (Shawboro Road) at Belcross
To NC 168 (Caratoke Highway)
Camden – Currituck Counties**

**STIP Project No. R-2574
WBS 38802.1.1**

Administrative Action

STATE FINDING OF NO SIGNIFICANT IMPACT

North Carolina Department of Transportation

Submitted Pursuant to the North Carolina State Environmental Policy Act



Approved By:

6/21/2019

Date

Derrick Weaver

Derrick G. Weaver, PE
North Carolina Department of Transportation
Environmental Policy Unit, Unit Head

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June 2019

Prepared By:

6/21/2019

Date

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Acronyms and Abbreviations

Term/Abbreviation	Definition
AADT	Average Annual Daily Traffic
AEC	Area of Environmental Concern
APE	Area of Potential Effects
BMP	Best Management Practices
CFR	Code of Federal Regulations
CIA	Community Impact Assessment
CIW	Citizens Informational Workshop
CLOMR	Conditional Letter of Map Revision
CO	Carbon Monoxide
CP	Concurrence Point
CTP	Comprehensive Transportation Plan
CWA	Clean Water Act
dB(A)	decibel
DMS [NC]	Division of Mitigation Services
DPM	Design Public Meeting
DSA	Demographic Study Area
DWR	[NC] Division of Water Resources
EA	Environmental Assessment
EEP	Ecosystem Enhancement Program
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FLUSA	Future Land Use Study Area
FONSI	Finding of No Significant Impact
GIS	Geographic Information System
GS	[NC] General Statute
HPO	[NC] Historic Preservation Office
HUC	Hydrologic Unit Code
HQW	High Quality Water
LEDPA	Least Environmentally Damaging Practicable Alternative
LOMR	Letter of Map Revision
LOS	Level of Service
LUSA	Land Use Scenario Assessment
LWCF	Land and Water Conservation Fund
MAP-21	Moving Ahead for Progress in the 21 st Century
Mph	miles per hour
MPO	Metropolitan Planning Organization
MTP	Metropolitan Transportation Plan
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NC	North Carolina
NCDCR	North Carolina Department of Cultural Resources

Term/Abbreviation	Definition
NCDEQ	North Carolina Department of Environmental Quality
NCDPR	North Carolina Division of Parks and Recreation
NCDOT	North Carolina Department of Transportation
NCFMP	North Carolina Floodplain Mapping Program
NCNHP	North Carolina Natural Heritage Program
NEPA	National Environmental Policy Act of 1969
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NHS	National Highway System
NLEB	Northern long-eared bat
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSA	Noise Study Area
NRTR	Natural Resources Technical Report
NSW	Nutrient Sensitive Waters
OSA	Office of State Archaeology
PBO	Programmatic Biological Opinion
PDA	Probable Development Area
PNA	Primary Nursery Area
RCBC	Reinforced Concrete Box Culvert
RCP	Reinforced Concrete Pipe
SEPA	State Environmental Policy Act
SHC	Strategic Highway Corridors
SLOPES	Standard Local Operating Procedure for Endangered Species
SR	State Route
STC	Strategic Transportation Corridors
STIP	State Transportation Improvement Program
TSM	Transportation Systems Management
TTST	Tractor Trailer Trucks
USACE	US Army Corps of Engineers
USC	United States Code
USDA	US Department of Agriculture
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
UST	Underground Storage Tank
UT	Unnamed Tributary
VAD	Voluntary Agriculture District
VPD	Vehicles Per Day
WQC	Water Quality Certification

PROJECT COMMITMENTS

US 158 (Shortcut Road) Improvements

US 158 (Shortcut Road), from East of NC 34 (Shawboro Road) at Belcross
To NC 168 (Caratoke Highway)
Camden – Currituck Counties
WBS 38802.1.1
STIP Project No. R-2574

NCDOT Construction Management

Run Swamp Canal within the project area has been identified by the North Carolina Wildlife Resources Commission as inland anadromous fish spawning waters. As a result, an in-water construction moratorium will be in effect from February 15th to June 30th.

NCDOT Hydraulics Unit

NCDOT will coordinate with the Floodplain Mapping Program (FMP), the delegated state agency for administering FEMA's National Flood Insurance Program, to determine whether the Memorandum of Agreement between NCDOT and the FMP is applicable or if approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR) will be required.

NCDOT Division 1

This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division will submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structure(s) and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

NCDOT Division 1, NCDOT Environmental Analysis Unit

NCDOT will explore mitigation options for any unavoidable impacts to the NC Coastal Land Trust (NCCLT) property and North River Game Land in order to retain quality habitat for the northern long-eared bat in the project area.

An Individual Section 404 Permit will likely be applicable. The US Army Corps of Engineers (USACE) holds the final discretion as to what permit will be required to authorize project construction. If a Section 404 permit is required, then a Section 401 Water Quality Certification from the NC Division of Water Resources will be needed.

Run Swamp Canal has been designated as a Coastal Area Management Act (CAMA) Public Trust Water. The canal crosses the study area near the eastern ends of wetlands WC and WU. A CAMA permit from the NC Division of Coastal Management (NCDCM) will be required for any project impacts.

NCDOT Project Management Unit

A tract north and south of the corridor, near the Camden/Currituck County line, adjacent to Run Swamp Canal, is owned and managed by the North Carolina Coastal Land Trust (NCCLT) and was purchased with Clean Water Management Trust Funds (CWMTF). Coordination is currently underway and will continue to determine if the property was purchased entirely with state funds, or if federal funds were involved to any degree.

NCDOT Roadside Environmental Unit

NCDOT Roadside Environmental Unit will coordinate with Currituck County Planning and Community Development Department, Planning and Zoning Division on a planting plan and implementation schedule so that landscaping is incorporated in the median from the Maple Road intersection to the NC 168 intersection.

US 158 Improvements
 US 158 (Shortcut Road)
 From East of NC 34 (Shawboro Road) at Belcross
 To NC 168 (Caratoke Highway)
 Camden - Currituck Counties
 STIP Project R-2574

I. Type of Action

This is a State of North Carolina administrative action, Finding of No Significant Impact (FONSI).

The North Carolina Department of Transportation (NCDOT) has determined this project will not have any significant impact on the human or natural environment. This FONSI is based on the June 29, 2016 State Environmental Assessment (SEA), which has been evaluated and determined to adequately and accurately disclose the environmental issues and impacts of the proposed project. The SEA, together with the information contained in this FONSI (including responses to comments on the SEA), provides sufficient evidence and analysis for determining that an Environmental Impact Statement (EIS) is not required.

II. Description of Proposed Action

General Project Description

The proposed project is described as US 158 (Shortcut Road), from east of NC 34 (Shawboro Road) at Belcross to NC 168/ (Caratoke Highway), Camden and Currituck Counties. A Vicinity Map of the project is presented in Figure 1.

The NCDOT 2018-2027 State Transportation Improvement Program (STIP) identifies this 10.5 mile section of US 158 as an expressway that needs improvement. In the STIP, the project is referred to as R-2574.

The purpose and need of the proposed project is to improve mobility and increase the roadway carrying capacity of US 158 in the project area to support both regional transportation needs and hurricane evacuation. Improving capacity was identified as the primary purpose for the project, with regional needs and hurricane evacuation as secondary purposes.

Project Costs

The NCDOT 2018-2027 STIP estimated cost for the project is:

Utility Relocation	\$ 1,760,000
Right of Way Acquisition	\$ 11,730,000
Construction	<u>\$100,650,000</u>
Total	\$114,140,000

Project Schedule:

The 2018-2027 STIP indicates the project is scheduled to begin utility relocation and right of way acquisition in Fiscal Year (FY) 2023. Construction is scheduled to begin in FY 2025.

III. Preferred Alternative

Alternatives for improvement of existing facilities were developed for the proposed project.

No Build Alternative

The No Build Alternative would not provide any substantial improvements to US 158 within the study area; only typical maintenance activities would occur. The No Build Alternative would not meet the purpose and need of the project.

Build Alternative: Widen Existing US 158

Widening existing US 158 from two lanes to four lanes would increase roadway capacity as well as support regional transportation needs and hurricane evacuation. The build alternative was carried forward and presented as the preferred alternative in the State Environmental Assessment (June 29, 2016).

The project was divided into six sections for the build alternative to analyze potential impacts. North side, south side, and best fit widening was considered for each section.

A preferred alternative was selected based on the alignment options and balancing of impacts to the human and natural environments. The proposed design for this alternative assumes a best fit widening option for Sections 2, 3, and 6, and south side widening for Sections 1, 4, and 5. A summary of impacts associated with each segment is provided in NCDOT project files.

Proposed improvements for the preferred alternative include four 12-foot travel lanes, a 46-foot median and 8-foot grassed shoulders (4-foot paved) to accommodate bicyclists. The proposed Typical Section is presented on Figure 2 in Appendix B. Access will be limited to one driveway per parcel with no other access, with some exceptions for larger properties. Directional crossovers are proposed at select intersections that will restrict left turns and through movements onto U.S. 158, redirecting traffic to U-turn bulbs.

The proposed right of way width for the project varies between 200 and 250 feet. All intersections will remain at-grade, with the side roads being stop-sign controlled. The proposed design speed is 60 miles per hour (mph). The proposed posted speed limit is generally 55 mph. The speed limit reduces to 45 mph near the eastern project limit at NC 168.

Longer bridges are proposed to encourage wildlife passage at two crossings of Run Swamp Canal. The project corridor is a notable barrier to wildlife, and the highest number of black bear

strikes in North Carolina occur along this roadway. Bridge design has been developed with consideration for this issue and will be constructed to encourage wildlife passage under the roadway. Wider offsets that exclude rip-rap are also being considered at the Run Swamp Canal crossing, and the Bridges #1 and #9 have been lengthened with supporting piers outside of the center of the channel to enhance wildlife permeability.

The proposed design as presented at the June 2018 Public Hearing is shown on Figures 3.1- 3.4 in Appendix B.

IV. Summary of Environmental Effects

A Summary of the estimated Environmental Effects for the preferred alternative are described in Table 1.

Table 1: Summary of Environmental Effects

Length of Proposed Improvements (miles)	10.5
Relocations	
Residential	20
Business	5
Non-Profit	2
Total	27
Minority/ Low Income Populations Disproportionately Impacted	None
Historic Properties (Adverse Effect)	None
Community Facilities	2
Noise Impacts	56
North River Game Land (acres)	10.0
Prime Farmland (acres)	59.0
Forested Areas (acres)	54.8
Possible Underground Storage Tanks (UST)	8
Water Resources	
Stream Crossings (major structures)	6
Wetlands (acres)	33.3
Streams (linear feet)	492
Surface Water (acres)	19.4
Floodplain (acres)	136.4
Federally-Protected Species	No Effect
Northern long-eared bat	Adverse Effect*

*Programmatic biological opinion for incidental take coverage, effective until April 2020.

Jurisdictional impacts are presented on Figures 4.1-4.8 in Appendix B.

V. Coordination and Comments

Circulation of the EA

The EA was approved on June 29, 2016 by NCDOT. Copies of the approved EA were made available for public review at the Camden County Planning and Community Development office and the NCDOT Division 1 office. An electronic copy of the EA was also posted on the NCDOT project website, as well as distributed through the State Clearinghouse.

Comments on the EA

The approved EA was circulated to the following federal, state, and local agencies for review and comment. An asterisk (*) indicates a written response was received from the agency. Agency comments and responses are available in Appendix A.

Federal Agencies/Regional Offices

US Army Corps of Engineers - (Wilmington District)

US Environmental Protection Agency

*US Department of the Interior- US Fish and Wildlife Service (Raleigh)

State Agencies

NC Department of Agriculture and Consumer Services- Agricultural Services

*NC Department of Cultural Resources

NC Department of Environmental Quality

NC Department of Public Safety- Emergency Management

NC Wildlife Resources Commission

*NC Division of Coastal Management

NC Division of Waste Management

NC Division of Water Resources

Local Governments/Agencies

Camden County Board of Commissioners

Camden County Schools

Pasquotank-Camden-Elizabeth City Emergency Management Agency

Camden County Planning Department

Currituck County Board of Commissioners

Currituck County Schools

Currituck County Department of Emergency Management

*Currituck County Planning and Community Development

Albemarle Rural Planning Organization

Public Hearing Certification

In accordance with 23 U.S.C. 128, the North Carolina Department of Transportation certifies that a public hearing for the subject project has been held and the social, economic, and environmental impacts, consistency with local community planning goals

and objectives, and the comments from individuals have been considered in the selection of the recommended alternative for the project.

A postcard was mailed to 155 households and businesses informing the public of the June 5, 2018 Informal Public Hearing. In addition to the postcard, outreach efforts announcing the public hearing included a public hearing notice advertisement through local newspapers, radio and a press release. Additionally, door hanger distribution in the Ponderosa Park mobile home community, and a posting on the project website were utilized to notify the public. The purpose of the hearing was to provide the public with information on the project, review the project designs, and gather comments about the project. A total of 80 individuals signed in to the meeting. Copies of the public hearing advertisement documents are available in the NCDOT Division 1 project files.

The informal style public hearing was held at the Currituck Cooperative Extension Center located at 120 Community Way, in Barco from 4:00 to 7:00 p.m. NCDOT and Consultant staff were available to provide information on the project, answer questions and receive comments. Display maps were presented at the meeting showing traffic control, right of way, and the preferred alternative. Project handouts were available in both English and Spanish. Two Spanish interpreters were also present. There was not a formal presentation.

Public Hearing Comments

A total of 15 comments were received as a result of the public meeting. General concerns voiced by the public included U-turn bulb spacing, impacts to emergency services, and impacts to pedestrian access. The comments can be found in Division 1 project files.

Coordination with Local Officials

A Local Official's Informational Meeting (LOIM) was held from 2:00 to 3:00 p.m. on June 5, 2018, prior to the informal public hearing. A PowerPoint presentation was provided describing the project's purpose and need, preferred alternative, and next steps. Questions and input from the meeting participants followed the presentation.

Enhanced Community Outreach

Since the EA was published, a questionnaire was developed for enhanced community outreach within the Ponderosa Park mobile home community. This community is expected to have residential relocation impacts. The questionnaire assessed the potential for community cohesion and effects pertaining to Title VI of the Civil Rights Act of 1964 and related statutes.

Immediately prior to the June 5, 2018 public hearing, members of the Consultant team, using Spanish interpreters, surveyed the residents located within Ponderosa Park. This was done by going door to door and asking homeowners to complete the questionnaire in order to help gauge the resident's opinions on the proposed project, as well as their

feelings towards their neighborhood. When asked “Are you in favor of the project?” eight residents responded positively, three responded negatively, and three responded that they did not know. The questionnaire forms, canvassing responses and results can be found in NCDOT project files.

Attention and accommodations will continue to be made for Environmental Justice, Title VI, and special populations present along the STIP R-2574 corridor through project design development. Additional internal coordination is underway to examine the feasibility of providing crossing and other pedestrian accommodations for this community. Some factors being considered by the NCDOT Bicycle and Pedestrian Transportation Division include:

- If applicable, the crossing facility type that is most appropriate and most feasible given the context.
- Roadway characteristics (e.g. design speed, crossing distance, sight distance), traffic volume, pedestrian volume, heavy vehicle traffic, future land use, and crash history.

Pedestrian accommodations would be contingent upon further coordination with Currituck County and the addition of a potential multiuse path on the north side of US 158.

Additional Project/Agency Coordination

Merger Process

The NEPA/ Section 404 Merger Process (Merger Process) was developed under an agreement between NCDOT, Federal Highway Administration, the US Army Corps of Engineers and other state and federal environmental resource and regulatory agencies. The integrated approach is an attempt to streamline the project by holding interagency meetings at designated milestones or Concurrence Points (CP) during the planning and design process where team members and other interested parties discuss and agree upon project specifics.

Since the distribution of the EA, a NEPA/ Section 404 Merger Team Meeting was held on April 17, 2019 to obtain concurrence on the Least Environmentally Damaging and Practicable (LEDPA)/ Preferred Alternative (CP 3) and to discuss and concur on avoidance and minimization efforts (CP 4A). Information presented at the meeting included a summary of the following information:

- Agency comments received on the EA
- Public comments received at or following the Public Hearing
- A summary of the Ponderosa Park questionnaire results

The merger team discussed options for potential on-site mitigation of any unavoidable impacts to the NC Coastal Land Trust property and North River Game Land in order to enhance northern long-eared bat habitat. Further coordination

with the NCDOT Environmental Analysis Unit Mitigation & Modeling group will take place.

The team noted a moratorium for in-stream construction activities in Run Swamp Canal, an anadromous fish spawning area, is effective from February 15 to June 30.

As a result of the meeting discussion, the Merger Team concurred on CP3 (LEDPA) and CP 4 (Avoidance and Minimization). All signed concurrence point forms are included in **Appendix C**.

Coordination with other Federal and State Agencies

No comments resulted from the USACE Public Notice, which expired on February 13, 2019.

Local Government Coordination

A meeting was held on June 28, 2017 at the Currituck County Cooperative Extension Building Conference Room in Barco to coordinate and gather input related to a proposed Multi-Use Path (MUP) on US 158 between College Way and Barco Way in Barco. During the meeting NCDOT clarified that any right of way purchased for the MUP would be the responsibility of the County and the path would need to be located outside the control of access fence for the highway facility. A MUP extending from Maple Road to NC 168 was added to the Public Hearing map. Further coordination with Currituck County will occur before final design is complete to determine the feasibility of cost sharing through a municipal agreement for the MUP. The project design includes a 4-foot paved shoulder that can accommodate bicyclists.

VI. Revisions to the SEA

Avoidance and Minimization Efforts

A tract north and south of the corridor, near the Camden/Currituck County line, adjacent to Run Swamp Canal, is owned and managed by the North Carolina Coastal Land Trust (NCCLT) and was purchased with Clean Water Management Trust Funds (CWMTF). Coordination is currently underway to determine if the property was purchased entirely with state funds, or if federal funds were involved to any degree. While NCCLT ownership and involvement of CWMT funds at this location has only recently come to light, wetlands surround the project corridor at this location, and the design has already been modified to avoid and minimize impacts in this area. Changes in the design or the preferred alternative are therefore unlikely to occur despite this additional coordination.

Major avoidance and minimization measures that have occurred to date include relocating U-turn bulbs to avoid jurisdictional features, cross features as perpendicularly as possible, avoiding direct impacts to the game land, and designing to promote wildlife

crossing and habitat continuity along the corridor.

Mitigation

On-site mitigation measures will be explored in order to alleviate impacts to the NCCLT property and the North River Game Land. The potential to add forested acres to the game land would benefit the northern long-eared bat given the presence of bat habitat on the property.

Traffic Forecasts

Traffic forecasts for the project were updated in April 2018. The forecasted traffic in the revised design year of the project (2040) is between 12,000 vehicles per day and 12,800 vehicles per day. This level of traffic is consistent with traffic projections at the time of CP 1 concurrence and confirms that improved capacity is still a need for the project.

Design Changes since the Public Hearing

Several minor design changes have been incorporated into the project design since the public meeting map that was presented in June 2018. Directional crossovers were added near NC 134 on the east end of the project and near NC 68 at the eastern end of the project to increase local mobility and discourage U-turns at major intersections. Design changes are presented in Figures 5.1 -5.9 in Appendix B.

Highway Traffic Noise

Introduction

In accordance with Title 23 Code of Federal Regulations Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise (Title 23 CFR 772) and the North Carolina Department of Transportation Traffic Noise Policy, each Type I highway project must be analyzed for predicted traffic noise impacts. In general, Type I projects are proposed State or Federal highway projects that construct a highway on new location, add new through lanes to an existing highway, substantially change the horizontal or vertical alignment of an existing highway, add or relocate interchange ramps or loops to complete an existing partial interchange, or involve new construction or substantial alteration of transportation facilities such as weigh stations, rest stops, ride-share lots or toll plazas.

Traffic noise impacts are determined through implementing the current Traffic Noise Model (TNM[®]) approved by the Federal Highway Administration (FHWA) and following procedures detailed in Title 23 CFR 772, the NCDOT Traffic Noise Policy and the NCDOT Traffic Noise Manual. When traffic noise impacts are predicted, examination and evaluation of alternative noise abatement measures must be

considered for reducing or eliminating these impacts. Construction noise impacts may occur if noise-sensitive receptors are in proximity to project construction activities. All reasonable efforts should be made to minimize exposure of noise sensitive areas to construction noise impacts.

The source of this traffic noise information is from *Traffic Noise Analysis, US 158 (Shortcut Road) From East of NC 34 (Shawboro Road) at Belcross to NC 168 (Caratoke Highway), Camden and Currituck Counties* (ICA Engineering, Inc., December 2015) and the *Review of TNA for Compliance with the 2016 NCDOT Traffic Noise Policy Memo* (HDR, June 2019)

Traffic Noise Impacts and Noise Contours

The maximum number of receptors in each project alternative predicted to become impacted by future traffic noise is shown in the table below. The table includes those receptors expected to experience traffic noise impacts by either approaching or exceeding the FHWA Noise Abatement Criteria or by a substantial increase in exterior noise levels as defined in the NCDOT Traffic Noise Policy.

Predicted Traffic Noise Impacts by Alternative*

Traffic Noise Impacts				
Alternative	Residential (NAC B)	Places of Worship/Schools, Parks, etc. (NAC C & D)	Businesses (NAC E)	Total
Build 1	44	12	0	56

*Per TNM2.5 and in accordance with 23 CFR Part 772

The maximum extent of the 71 and 66 dB(A) noise level contours measured from the edge of the nearest travel lane is 79 feet and 167 feet respectively.

Traffic Noise Abatement Measures

Measures for reducing or eliminating the traffic noise impacts were considered for all impacted receptors in each alternative. The primary noise abatement measures evaluated for highway projects include highway alignment changes, traffic system management measures, establishment of buffer zones, noise barriers and noise insulation (NAC D only). For each of these measures, benefits versus allowable abatement quantity (reasonableness), engineering feasibility, effectiveness and practicability, and other factors were included in the noise abatement considerations.

Substantially changing the highway alignment to minimize noise impacts is not considered to be a viable option for this project due to engineering and/or environmental factors. Traffic system management measures are not considered

viable for noise abatement due to the negative impact they would have on the capacity and level of service of the proposed roadway. Costs to acquire buffer zones for impacted receptors will exceed the NCDOT base dollar value of \$22,500 per benefited receptor plus an incremental increase as defined in the NCDOT Traffic Noise Manual, causing this abatement measure to be unreasonable.

Noise Barriers

Noise barriers include two basic types: earthen berms and noise walls. These structures act to diffract, absorb and reflect highway traffic noise. For this project, earthen berms are not found to be a viable abatement measure because the additional right of way, materials and construction costs are estimated to exceed the NCDOT maximum allowable base quantity of 4,200 cubic yards per benefited receptor plus an incremental increase as defined in the NCDOT Traffic Noise Policy.

A noise barrier evaluation was conducted for this project utilizing the Traffic Noise Model (TNM 2.5) software developed by the FHWA. The following table summarizes the results of the evaluation.

Preliminary Noise Barrier Evaluation Results

Preferred Alternative	Noise Barrier and Location Description	Length / Height ¹ (feet)	Square Footage	Number of Benefited Receptors	Square Feet per Benefited Receptor / Allowable Square Feet per Benefited Receptor	Preliminary Feasible and Reasonable (“Likely”) for Construction ^{2,3}
Alternative 1	US 158 (Shortcut Road), Southside of US 158 and west of Ben’s Bonanza	570/10.9	6,232	3	2,077/2,000	No

¹Average wall height. Actual wall height at any given location may be higher or lower.

²The likelihood of a barrier’s construction is preliminary and subject to change, pending completion of final design and the public involvement process.

³Barrier is not reasonable due to the quantity per benefited receptor exceeding the allowable quantity per benefited receptor.

Summary

Based on this preliminary study, traffic noise abatement is not recommended and no noise abatement measures are proposed. This evaluation completes the highway traffic noise

requirements of Title 23 CFR Part 772. No additional noise analysis will be performed for this project unless warranted by a substantial change in the project's design concept or scope.

In accordance with NCDOT Traffic Noise Policy, the Federal/State governments are not responsible for providing noise abatement measures for new development for which building permits are issued after the Date of Public Knowledge. The Date of Public Knowledge of the proposed highway project will be the approval date of the State Finding of No Significant Impact (SFONSI). NCDOT strongly advocates the planning, design and construction of noise-compatible development and encourages its practice among planners, building officials, developers and others.

VII. Basis for State Finding of No Significant Impact

Summary of Findings

The State Environmental Assessment documents a study of impacts of the proposed project. Based on this study and on comments received from federal, state, local agencies and the general public, it is the finding of NCDOT that this project will not have a significant adverse impact on the human or natural environment. No significant impacts to natural, social, ecological, cultural, economic, or scenic resources are expected. The proposed project is consistent with local plans. The project has been extensively coordinated with federal, state, and local agencies. In view of this evaluation, it has been determined that a FONSI is applicable for this project. Therefore, neither an Environmental Impact Statement nor further environmental analysis is required.

Contact Information for NCDOT Project Management Unit:

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Project Management Unit
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Raleigh, NC 27610

APPENDIX A
Agency Comments Received on
Environmental Assessment

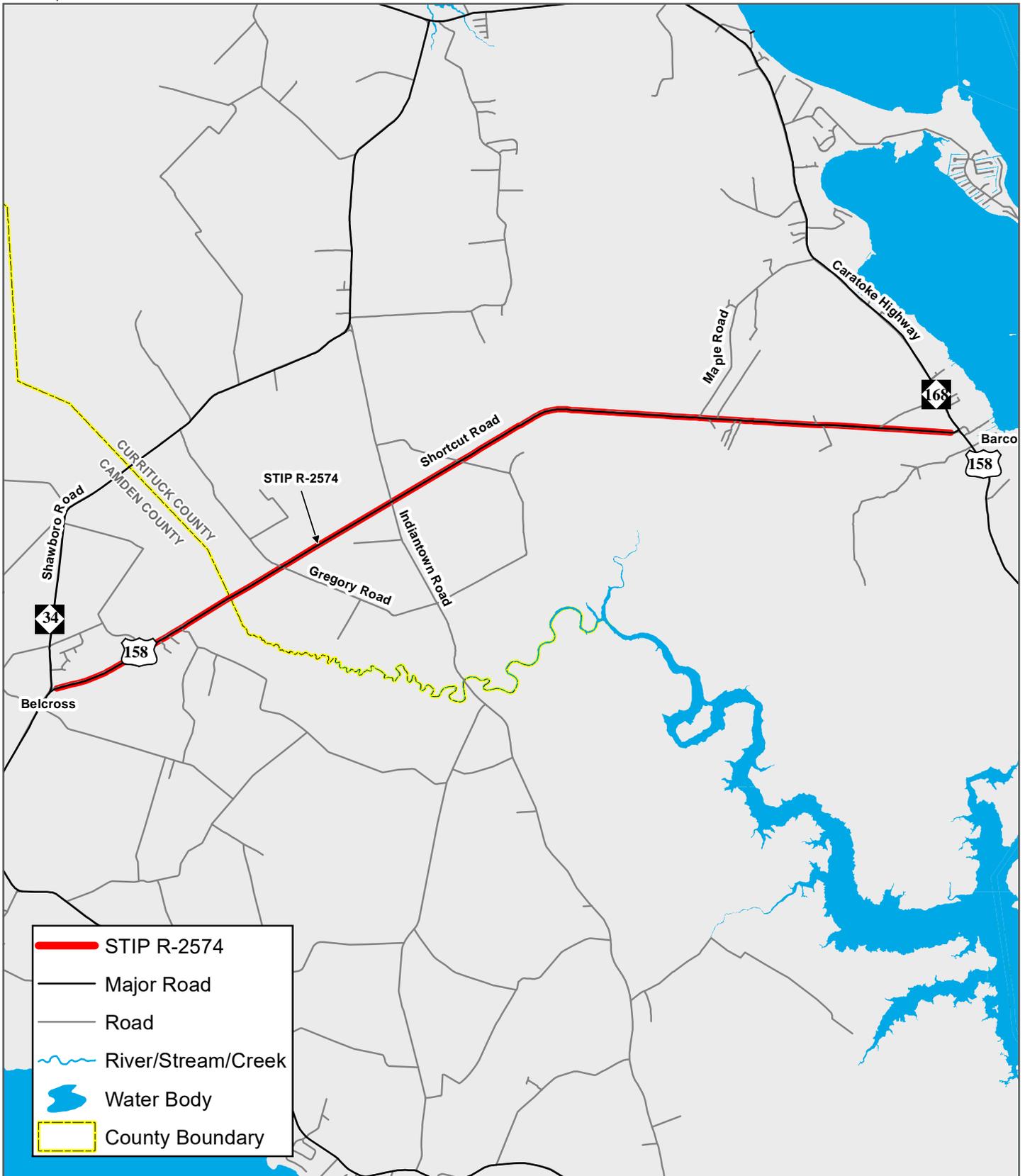
Summary of Agency Comments Received on the EA

No.	Agency Comment	NCDOT Response
U. S. Fish and Wildlife Service - August 4, 2016		
1	Pages 22-23 of the EA accurately address the Section 7 biological conclusion for the federally threatened northern long-eared bat (<i>Myotis septentrionalis</i>). As stated, the Service issued a programmatic biological opinion (adopted April 10, 2015) which provides incidental take coverage for this species within NCDOT Divisions 1-8. However, Tables SI, 8, and 9 on pages vii, 11, and 12, respectively, incorrectly state that the project will have no effect on the northern long-eared bat. These tables should be corrected to match the biological conclusion given on pages 22-23.	Correction made to Table 1 of EA to add the Northern long-eared bat and conclusion that it May Affect, Likely to Adversely Affect.
2	Table 16 on page 22 should indicate that the northern long-eared bat occurs in Currituck County as well as Camden County.	Comment noted.
3	The project will impact 10.0 acres of the North River Game Land. We recommend that any on-site wetland mitigation efforts should attempt to concurrently compensate the North Carolina Wildlife Resources Commission for the loss of this valuable Game Land habitat. The North River Game Land provides habitat for the federally threatened northern long-eared bat as well as many other species.	Comment noted.
4	Appendix A incorrectly includes a comment letter from the Service from another unrelated project (i.e. R-4457).	Comment noted.
Currituck County Planning and Community Development Department, Planning and Zoning Division - August 15, 2016		
1	The proposed roadway typical section as shown on Figure 4 includes a 46 foot median. The county's preference is that this median be vegetated or landscaped, rather than an impervious surface or a continuous turn lane.	The design includes a vegetated median where possible.
2	The county specifically requests that the NCDOT Roadside Environmental Unit develop a planting plan and implementation schedule so that landscaping is incorporated in the median from the Maple Road intersection to the NC 168 intersection.	Added to Project Commitments
3	The Currituck County Comprehensive Transportation Plan (CTP) adopted May 2012 and amended November 2015 indicates the interchange alignment with NC 168 be shifted southward. This alignment does not appear to be considered in the EA.	Subject project terminates west of the NC 168 intersection. Intersection realignment is outside the scope of this project.
4	The county is formally requesting that a side path be incorporated in the project design. This off road pedestrian improvement is included as a recommendation in the CTP and the Albemarle Regional Bicycle Plan. Please confirm this letter serves as a formal request for inclusion of a side path.	The NCDOT/ local government cost sharing arrangements for a multiuse path will be calculated and presented to the local government for consideration. The proposed typical section includes 4-foot paved shoulders on each side which will accommodate bicycles.
5	The county recommends a Finding Of No Significant Impact.	Comment noted.

APPENDIX B

FIGURES

Figure 1: Vicinity Map
Figure 2: Typical Section
Figure 3: Preferred Alternative – Public Hearing Map
Figure 4 – Jurisdictional Impacts
Figure 5 Design Changes



- STIP R-2574
- Major Road
- Road
- ~ River/Stream/Creek
- Water Body
- County Boundary





Miles



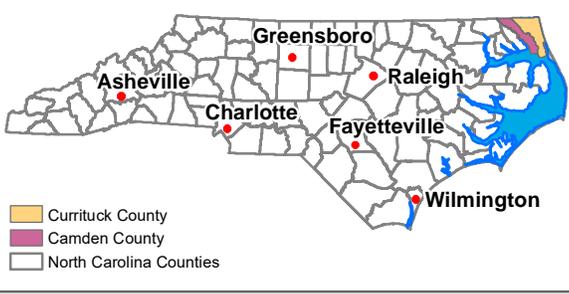
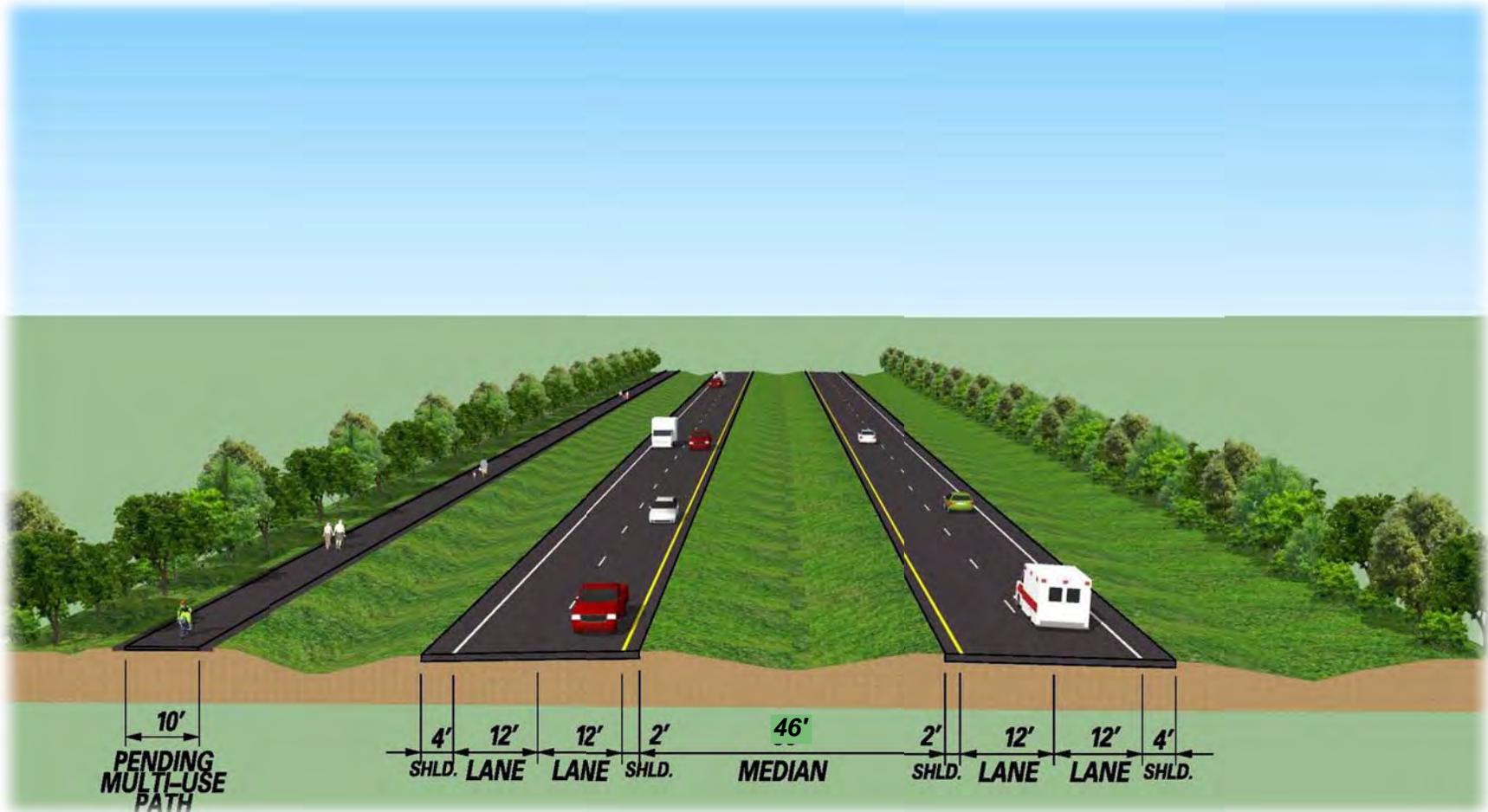



Figure 1- VICINITY MAP
 STIP PROJECT NO. R-2574
 US 158 WIDENING FROM NC 34
 (CAMDEN COUNTY) TO NC 168
 (CURRITUCK COUNTY,
 WITH MULTI-USE PATH FROM
 SR 1246 (MAPLE ROAD)
 TO NC 168.
 JULY 2018

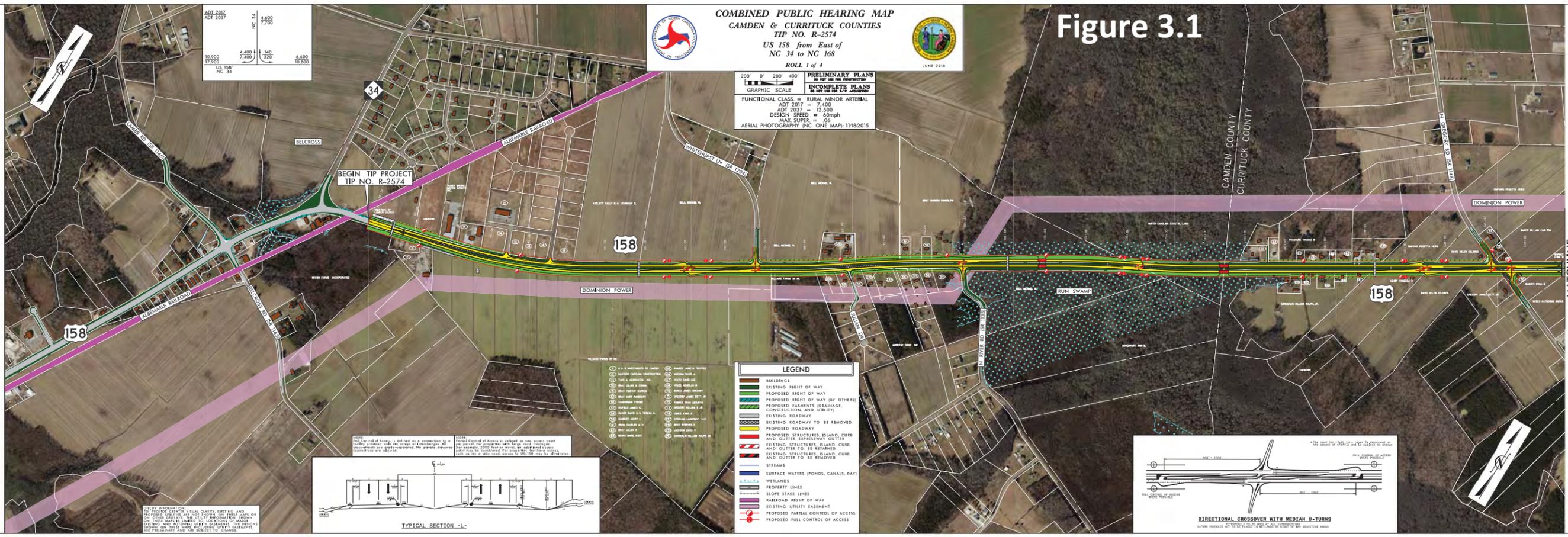
Figure 2 - Proposed Typical Section

Note: A ten-foot multi-use path by Currituck County is proposed from Maple Road (SR 1246) to NC 168 pending cost sharing agreements. Shown together in the graphic below, the path is not proposed for the entire length of the project. The right of way width for the project varies between 200 and 250 feet.





COMBINED PUBLIC HEARING MAP
 CAMDEN & CURRITUCK COUNTIES
 US 158 from East of
 NC 34 to NC 168
 ROLL 1 of 4



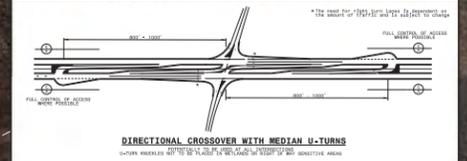
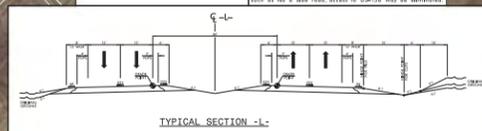


COMBINED PUBLIC HEARING MAP
 CAMDEN & CURRITUCK COUNTIES
 TIP NO. R-2574
 US 158 from East of
 NC 34 to NC 168
 ROLL 1 of 4

PRELIMINARY PLANS
 INCOMPLETE PLANS
 GRAPHIC CLASS = RURAL MINOR ARTERIAL
 ADT 2017 = 7,400
 ADT 2037 = 12,500
 DESIGN SPEED = 40mph
 MAX SUPER = .06
 AERIAL PHOTOGRAPHY INC ONE MAPS 11/8/2015

Figure 3.1

- LEGEND**
- BUILDINGS
 - EXISTING RIGHT OF WAY
 - PROPOSED RIGHT OF WAY
 - PROPOSED RIGHT OF WAY (BY OTHERS)
 - PROPOSED EASEMENTS (DRAINAGE, CONSTRUCTION, AND UTILITY)
 - EXISTING ROADWAY
 - EXISTING ROADWAY TO BE REMOVED
 - PROPOSED ROADWAY
 - PROPOSED STRUCTURES, ISLAND, CURB AND GUTTER, EXPRESSWAY, GUTTER
 - EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE RETAINED
 - EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE REMOVED
 - STREAMS
 - SURFACE WATERS (PONDS, CANALS, BAY)
 - WETLANDS
 - PROPERTY LINES
 - SLOPE STAKE LINES
 - RAILROAD RIGHT OF WAY
 - EXISTING UTILITY EASEMENT
 - PROPOSED PARTIAL CONTROL OF ACCESS
 - PROPOSED FULL CONTROL OF ACCESS



MATCHLINE
 SEE ROLL PLOT 2

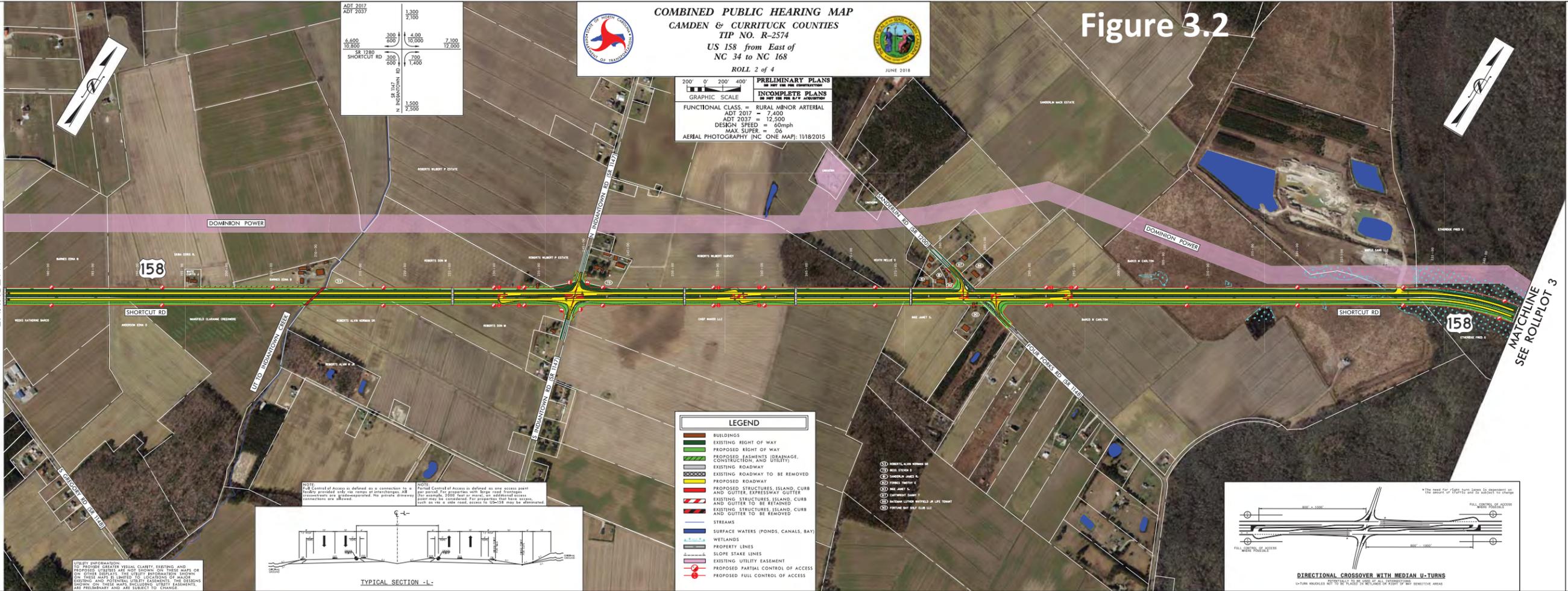


COMBINED PUBLIC HEARING MAP
 CAMDEN & CURRITUCK COUNTIES
 TIP NO. R-2574
 US 158 from East of
 NC 34 to NC 168
 ROLL 1 of 4



COMBINED PUBLIC HEARING MAP
 CAMDEN & CURRITUCK COUNTIES
 TIP NO. R-2574
 US 158 from East of
 NC 34 to NC 168
 ROLL 2 of 4


MATCHLINE
SEE ROLLOUT 1



ADT 2017	1,300	2,100
ADT 2037	4,400	7,100
SR 1280 SHORTCUT RD	10,800	10,000
SR 1147	300	400
SR 1147	200	700
SR 1147	500	1,400
SR 1147	1,500	2,300



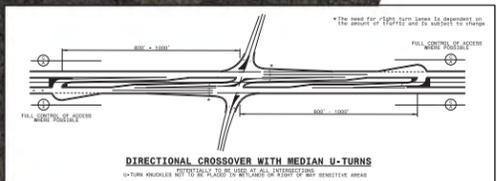
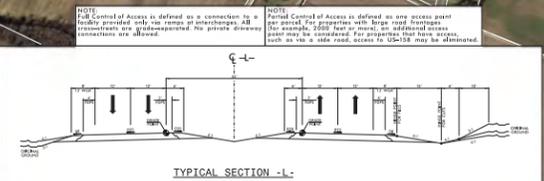
COMBINED PUBLIC HEARING MAP
 CAMDEN & CURRITUCK COUNTIES
 TIP NO. R-2574
 US 158 from East of
 NC 34 to NC 168
 ROLL 2 of 4


 JUNE 2018

PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
 DO NOT USE FOR R/F/A ACQUISITION
 GRAPHIC SCALE: 200' 0" 200' 400'
 FUNCTIONAL CLASS = RURAL MINOR ARTERIAL
 ADT 2017 = 7,400
 ADT 2037 = 12,500
 DESIGN SPEED = 60mph
 MAX SUPER = .06
 AERIAL PHOTOGRAPHY (NC ONE MAP): 11/18/2015

Figure 3.2

- LEGEND**
- BUILDINGS
 - EXISTING RIGHT OF WAY
 - PROPOSED RIGHT OF WAY
 - PROPOSED EASEMENTS (DRAINAGE, CONSTRUCTION, AND UTILITY)
 - EXISTING ROADWAY
 - EXISTING ROADWAY TO BE REMOVED
 - PROPOSED ROADWAY
 - PROPOSED STRUCTURES, ISLAND, CURB AND GUTTER, EXPRESSWAY GUTTER
 - EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE RETAINED
 - EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE REMOVED
 - STREAMS
 - SURFACE WATERS (PONDS, CANALS, BAY)
 - WETLANDS
 - PROPERTY LINES
 - SLOPE STAKE LINES
 - EXISTING UTILITY EASEMENT
 - PROPOSED PARTIAL CONTROL OF ACCESS
 - PROPOSED FULL CONTROL OF ACCESS





COMBINED PUBLIC HEARING MAP
 CAMDEN & CURRITUCK COUNTIES
 TIP NO. R-2574
 US 158 from East of
 NC 34 to NC 168
 ROLL 2 of 4


MATCHLINE
SEE ROLLOUT 3

Figure 3.3



COMBINED PUBLIC HEARING MAP CAMDEN & CURRITUCK COUNTIES TIP NO. R-2574 US 158 from East of NC 34 to NC 168 ROLL 3 of 4



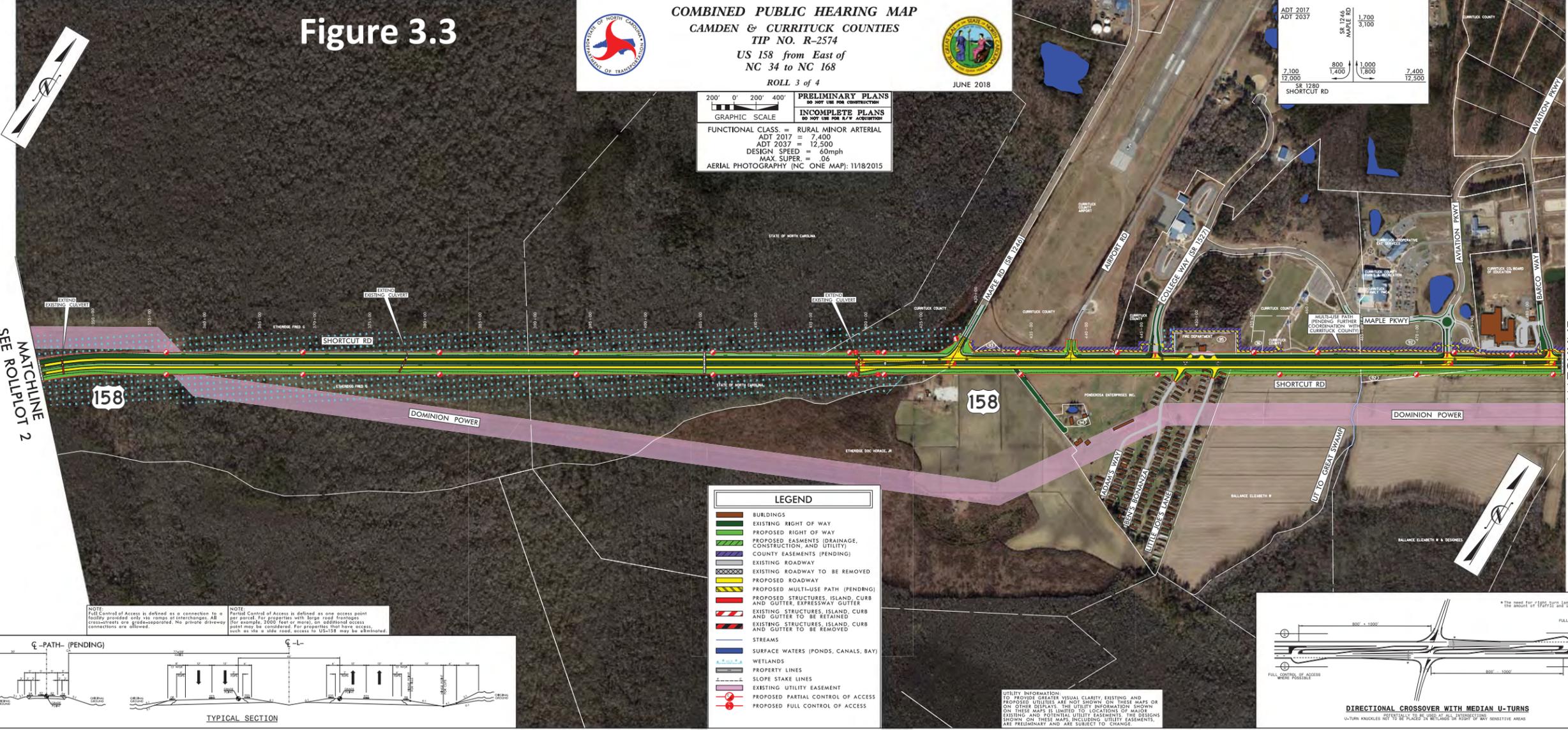
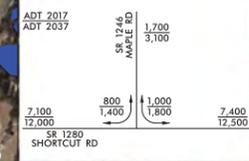
JUNE 2018

200' 0' 200' 400'
GRAPHIC SCALE

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/L'S ACQUISITION

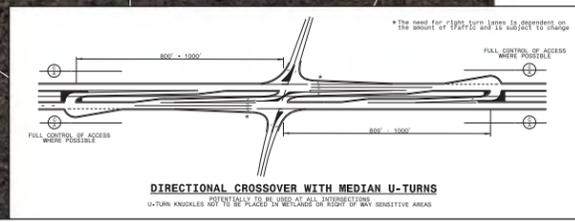
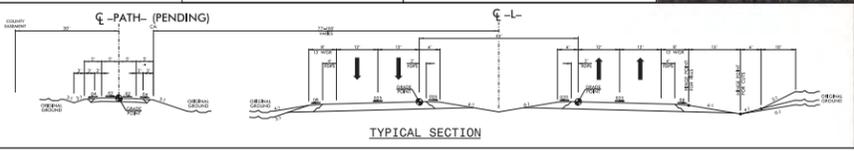
FUNCTIONAL CLASS = RURAL MINOR ARTERIAL
ADT 2017 = 7,400
ADT 2037 = 12,500
DESIGN SPEED = 60mph
MAX. SUPER. = .06
AERIAL PHOTOGRAPHY (NC ONE MAP): 11/18/2015



LEGEND	
	BUILDINGS
	EXISTING RIGHT OF WAY
	PROPOSED RIGHT OF WAY
	PROPOSED EASEMENTS (DRAINAGE, CONSTRUCTION, AND UTILITY)
	COUNTY EASEMENTS (PENDING)
	EXISTING ROADWAY
	EXISTING ROADWAY TO BE REMOVED
	PROPOSED ROADWAY
	PROPOSED MULTILANE PATH (PENDING)
	PROPOSED STRUCTURES, ISLAND, CURB AND GUTTER, EXPRESSWAY GUTTER
	EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE RETAINED
	EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE REMOVED
	STREAMS
	SURFACE WATERS (PONDS, CANALS, BAY)
	WETLANDS
	PROPERTY LINES
	SLOPE STAKE LINES
	EXISTING UTILITY EASEMENT
	PROPOSED PARTIAL CONTROL OF ACCESS
	PROPOSED FULL CONTROL OF ACCESS

NOTE: Full Control of Access is defined as a connection to a facility provided only via ramps at interchanges. All cross-treatments are grade-separated. No private driveway connections are allowed.

NOTE: Partial Control of Access is defined as one access point per parcel. For properties with large road frontages (for example, 2000 feet or more), an additional access point may be considered. For properties that have access, such as via a side road, access to US-158 may be eliminated.



UTILITY INFORMATION: TO PROVIDE GREATER VISUAL CLARITY, EXISTING AND PROPOSED UTILITIES ARE NOT SHOWN ON THESE MAPS OR ON OTHER DISPLAYS. THE UTILITY INFORMATION SHOWN ON THESE MAPS IS LIMITED TO LOCATIONS OF MAJOR EXISTING AND POTENTIAL UTILITY EASEMENTS. THE DESIGNS SHOWN ON THESE MAPS, INCLUDING UTILITY EASEMENTS, ARE PRELIMINARY AND ARE SUBJECT TO CHANGE.

COMBINED PUBLIC HEARING MAP
CAMDEN & CURRITUCK COUNTIES
TIP NO. R-2574
US 158 from East of
NC 34 to NC 168
ROLL 3 of 4

COMBINED PUBLIC HEARING MAP
CAMDEN & CURRITUCK COUNTIES
TIP NO. R-2574
US 158 from East of
NC 34 to NC 168
ROLL 3 of 4

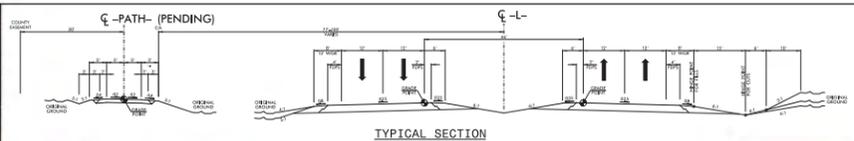
MATCHLINE
SEE ROLL PLOT 2

MATCHLINE
SEE ROLL PLOT 4

Figure 3.4



COMBINED PUBLIC HEARING MAP CAMDEN & CURRITUCK COUNTIES TIP NO. R-2574 US 158 from East of NC 34 to NC 168 ROLL 4 of 4



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/S ACQUISITION

FUNCTIONAL CLASS = RURAL MINOR ARTERIAL
ADT 2017 = 7,400
ADT 2037 = 12,500
DESIGN SPEED = 60mph
MAX. SUPER. = .06
AERIAL PHOTOGRAPHY (NC ONE MAP): 11/18/2015

NOTE: Full Control of Access is defined as a connection to a facility provided only to users of interchanges. All cross-streets are grade-separated. No private driveway connections are allowed.

NOTE: Partial Control of Access is defined as one access point per parcel. For properties with large road frontages (for example, 2000 feet or more), an additional access point may be considered. For properties that have access such as to a title road, access to US-158 may be eliminated.

COMBINED PUBLIC HEARING MAP
CAMDEN & CURRITUCK COUNTIES
TIP NO. R-2574
US 158 from East of
NC 34 to NC 168
ROLL 4 of 4

COMBINED PUBLIC HEARING MAP
CAMDEN & CURRITUCK COUNTIES
TIP NO. R-2574
US 158 from East of
NC 34 to NC 168
ROLL 4 of 4



	ADT 2017	ADT 2037	
NC 168	15,200	25,900	
	7,400	1,100	↑
	12,300	1,900	↑
US 158	6,200	10,400	↑
US 158	20,300	34,300	

- LEGEND**
- BUILDINGS
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED EASEMENTS (DRAINAGE, CONSTRUCTION, AND UTILITY)
- COUNTY EASEMENTS (PENDING)
- EXISTING ROADWAY
- EXISTING ROADWAY TO BE REMOVED
- PROPOSED ROADWAY
- PROPOSED MULTI-USE PATH (PENDING)
- PROPOSED ROADWAY (BY OTHERS)
- PROPOSED STRUCTURES, ISLAND, CURB AND GUTTER, EXPRESSWAY GUTTER
- EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE RETAINED
- EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE REMOVED
- STREAMS
- SURFACE WATERS (PONDS, CANALS, BAY)
- WETLANDS
- PROPERTY LINES
- SLOPE STAKE LINES
- EXISTING UTILITY EASEMENT
- PROPOSED PARTIAL CONTROL OF ACCESS
- PROPOSED FULL CONTROL OF ACCESS
- EXISTING TRAFFIC SIGNAL

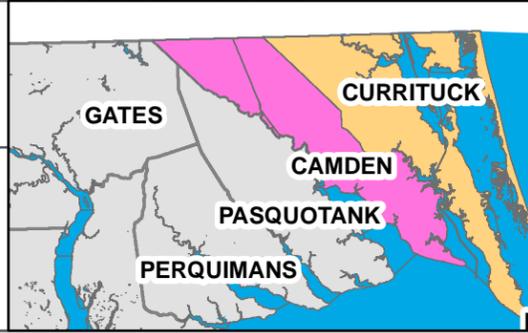
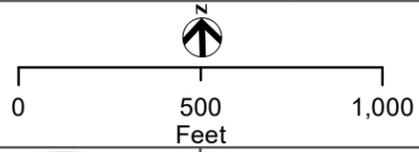
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DIRECTIONAL CROSSOVER WITH MEDIAN U-TURNS
U-TURN KNOCKLES MUST BE LOCATED IN RELATION TO TRIP OF WAY SENSITIVE AREAS



Figure 4.1

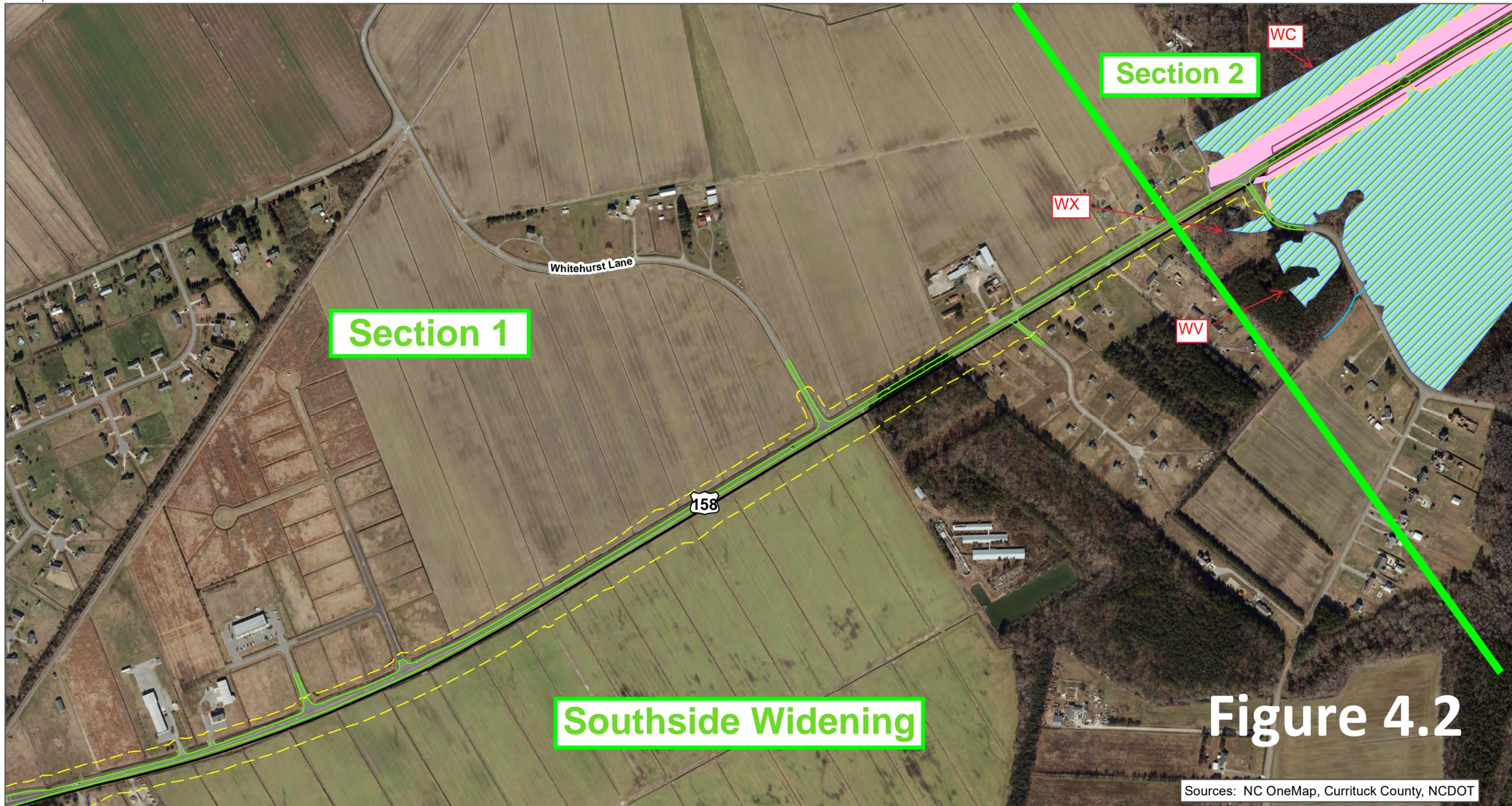
Sources: NC OneMap, Currituck County, NCDOT



- Existing Edge of Pavement
- Jurisdictional Stream
- - - Slope Stakes Plus 25 Feet
- Tributary to Waters of the US
- Impacted Stream
- Jurisdictional Wetland
- Impacted Wetland

STREAM AND WETLAND IMPACT MAP
 STIP PROJECT NO. R-2574
 US 158 WIDENING FROM
 NC 34 (CAMDEN COUNTY) TO NC 168
 (CURRITUCK COUNTY), WITH
 MULTI-USE PATH FROM SR 1246
 (MAPLE ROAD) TO NC 168.

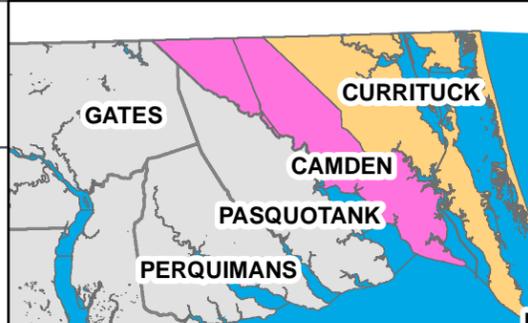
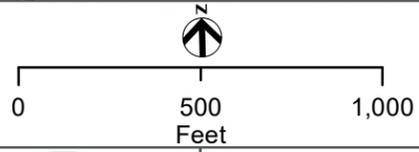
MARCH 2019



Southside Widening

Figure 4.2

Sources: NC OneMap, Currituck County, NCDOT



- Existing Edge of Pavement
- - - Slope Stakes Plus 25 Feet
- Jurisdictional Stream
- Tributary to Waters of the US
- Impacted Stream
- Jurisdictional Wetland
- Impacted Wetland

STREAM AND WETLAND IMPACT MAP
 STIP PROJECT NO. R-2574
 US 158 WIDENING FROM
 NC 34 (CAMDEN COUNTY) TO NC 168
 (CURRITUCK COUNTY), WITH
 MULTI-USE PATH FROM SR 1246
 (MAPLE ROAD) TO NC 168.

MARCH 2019

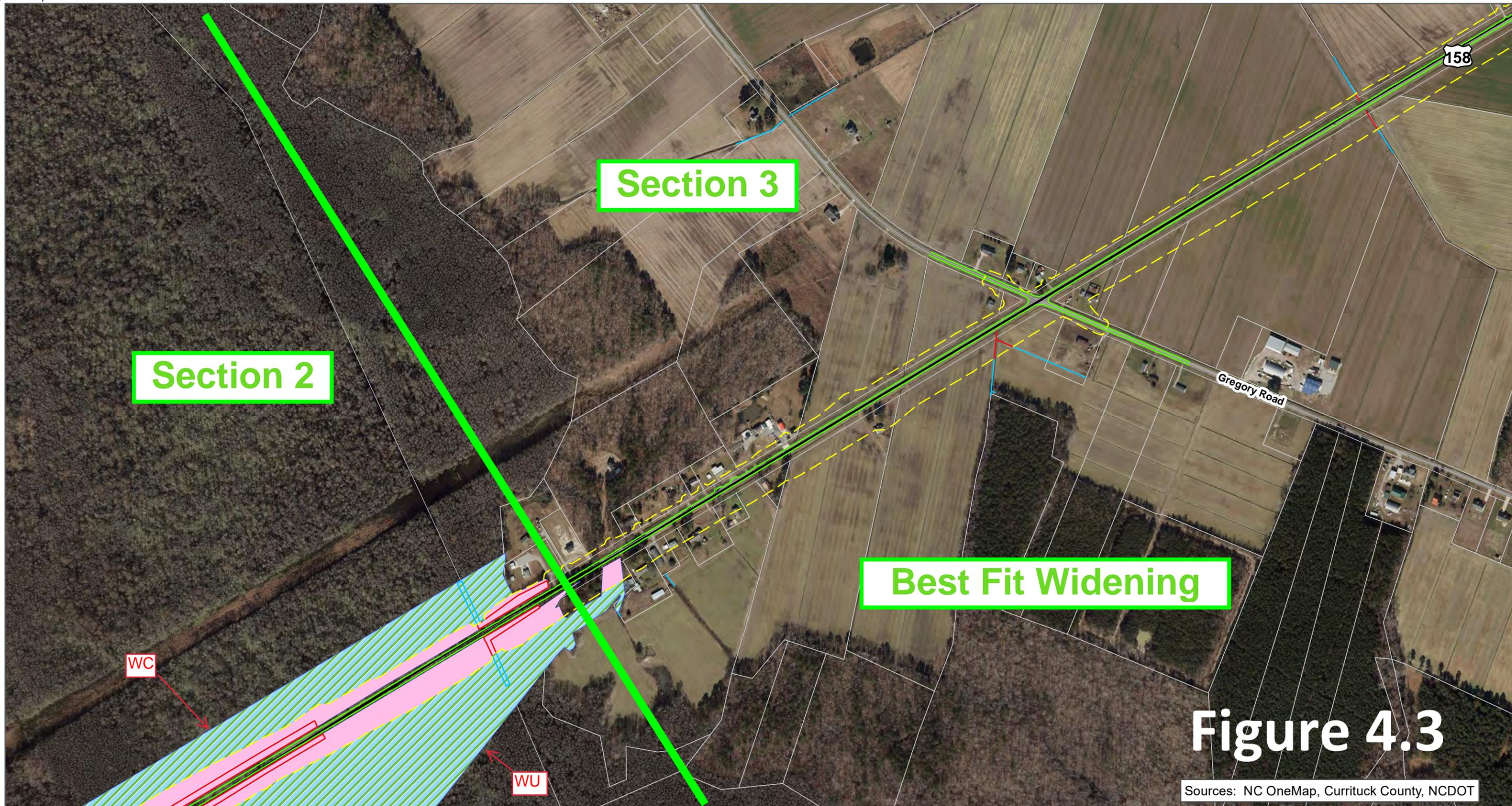
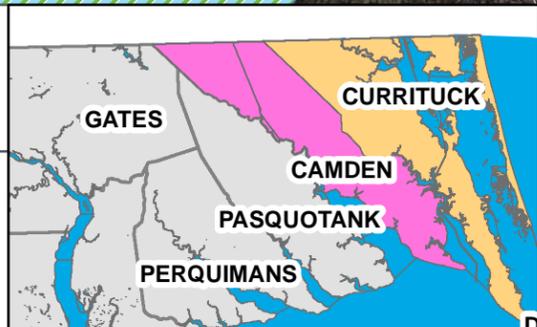


Figure 4.3

Sources: NC OneMap, Currituck County, NCDOT

0 500 Feet 1,000



- Existing Edge of Pavement
- Tributary to Waters of the US
- Impacted Stream
- - - Slope Stakes Plus 25 Feet
- ▨ Jurisdictional Wetland
- ▨ Impacted Wetland

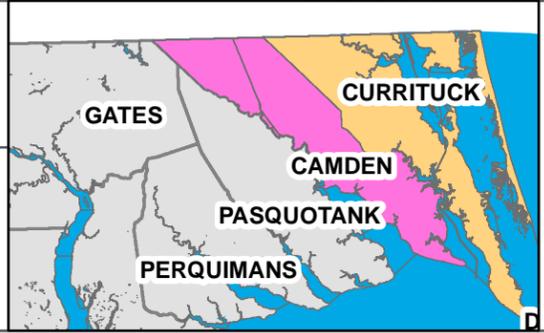
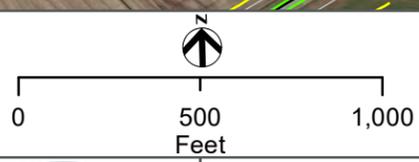
STREAM AND WETLAND IMPACT MAP
 STIP PROJECT NO. R-2574
 US 158 WIDENING FROM
 NC 34 (CAMDEN COUNTY) TO NC 168
 (CURRITUCK COUNTY), WITH
 MULTI-USE PATH FROM SR 1246
 (MAPLE ROAD) TO NC 168.

MARCH 2019



Figure 4.4

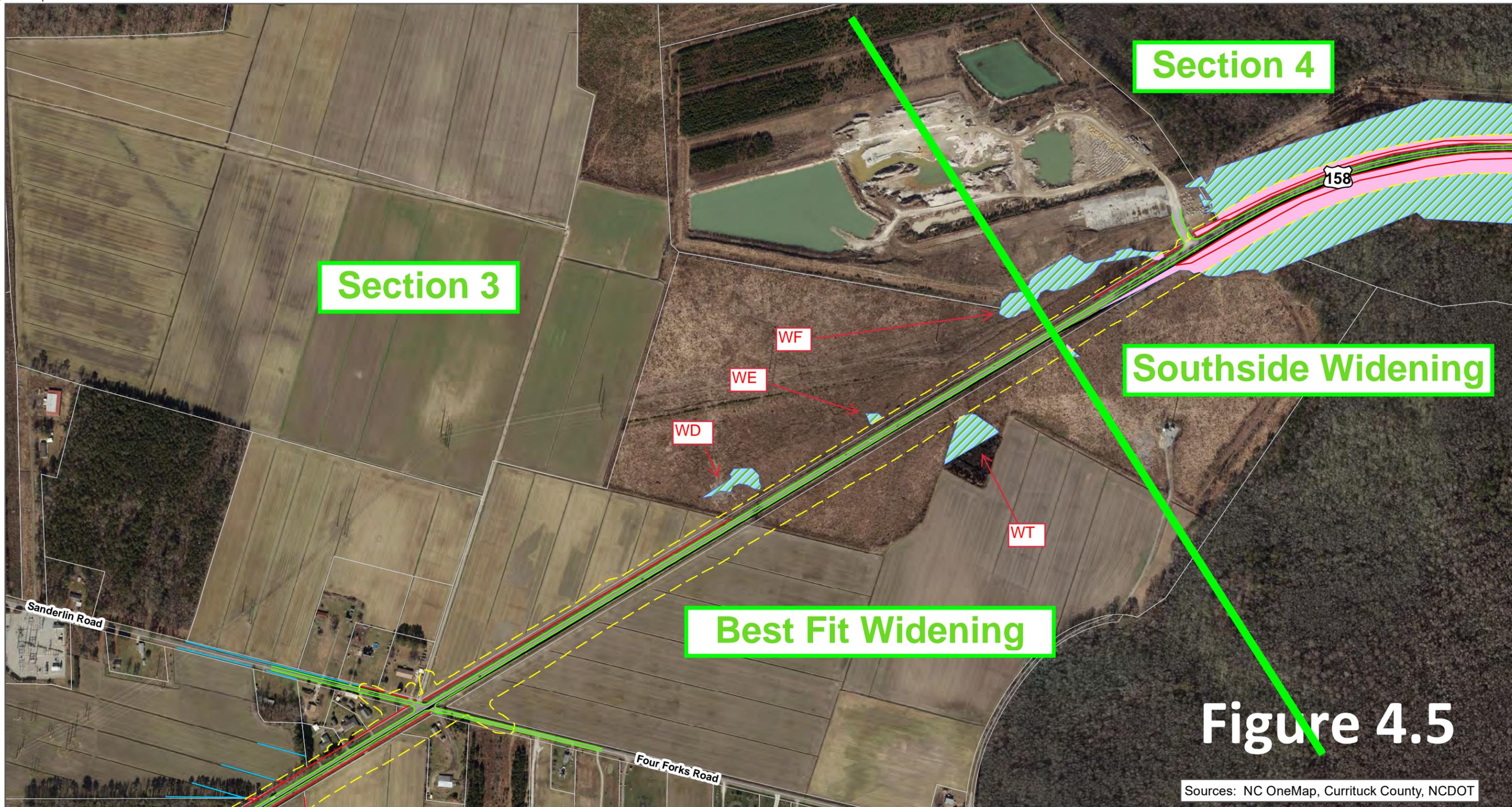
Sources: NC OneMap, Currituck County, NCDOT



- Existing Edge of Pavement
- Tributary to Waters of the US
- Slope Stakes Plus 25 Feet
- Impacted Stream
- Jurisdictional Wetland
- Impacted Wetland

STREAM AND WETLAND IMPACT MAP
 STIP PROJECT NO. R-2574
 US 158 WIDENING FROM
 NC 34 (CAMDEN COUNTY) TO NC 168
 (CURRITUCK COUNTY), WITH
 MULTI-USE PATH FROM SR 1246
 (MAPLE ROAD) TO NC 168.

MARCH 2019

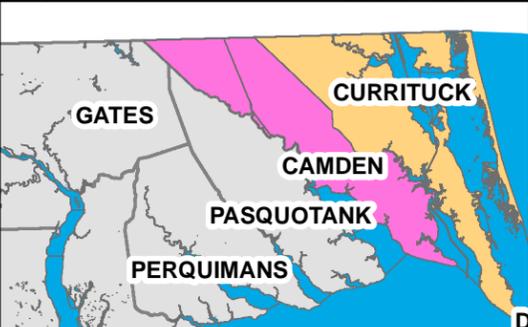
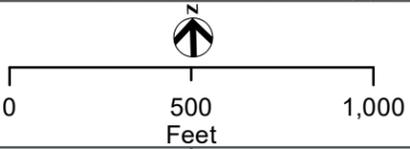


Southside Widening

Best Fit Widening

Figure 4.5

Sources: NC OneMap, Currituck County, NCDOT



- Existing Edge of Pavement
- Tributary to Waters of the US
- - - Slope Stakes Plus 25 Feet
- Impacted Stream
- Jurisdictional Wetland Impacted
- Wetland

STREAM AND WETLAND IMPACT MAP
 STIP PROJECT NO. R-2574
 US 158 WIDENING FROM
 NC 34 (CAMDEN COUNTY) TO NC 168
 (CURRITUCK COUNTY), WITH
 MULTI-USE PATH FROM SR 1246
 (MAPLE ROAD) TO NC 168.

MARCH 2019

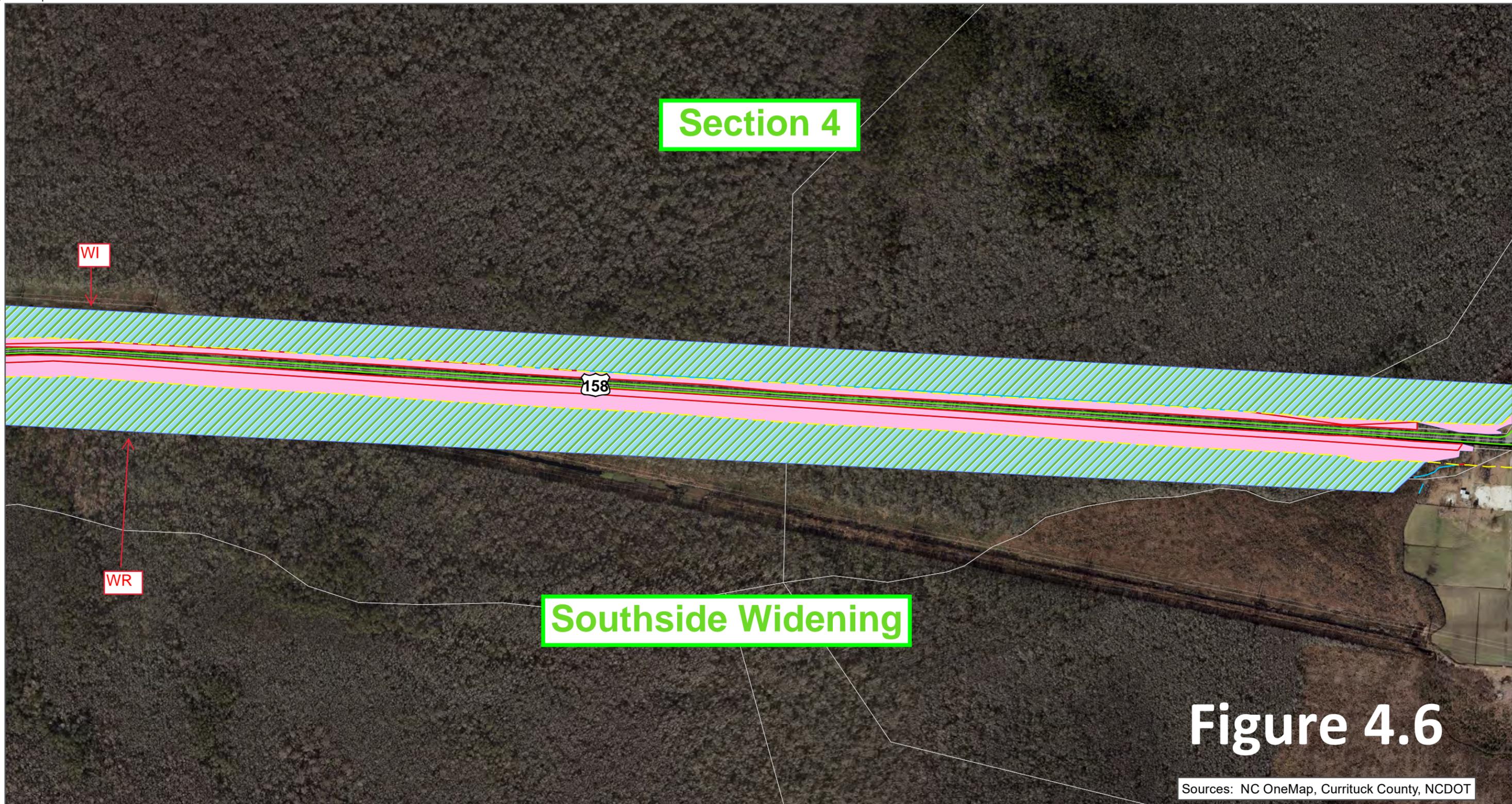
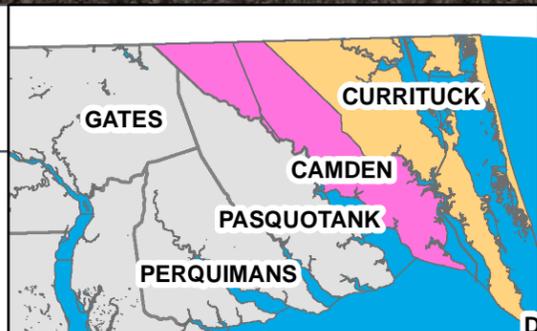


Figure 4.6

Sources: NC OneMap, Currituck County, NCDOT

0 500 Feet 1,000



- Existing Edge of Pavement
- Tributary to Waters of the US
- Impacted Stream
- ▨ Jurisdictional Wetland
- ▨ Impacted Wetland
- Slope Stakes Plus 25 Feet

STREAM AND WETLAND IMPACT MAP
 STIP PROJECT NO. R-2574
 US 158 WIDENING FROM
 NC 34 (CAMDEN COUNTY) TO NC 168
 (CURRITUCK COUNTY), WITH
 MULTI-USE PATH FROM SR 1246
 (MAPLE ROAD) TO NC 168.

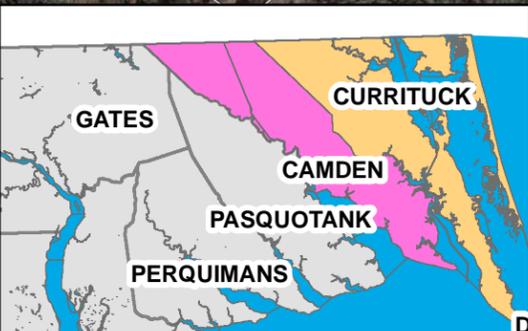
MARCH 2019



Figure 4.7

Sources: NC OneMap, Currituck County, NCDOT

0 500 Feet 1,000



- Existing Edge of Pavement
- - - Slope Stakes Plus 25 Feet
- Jurisdictional Stream
- Tributary to Waters of the US
- Impacted Stream
- Jurisdictional Wetland
- Impacted Wetland

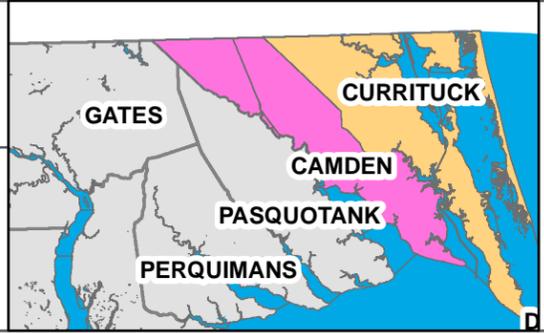
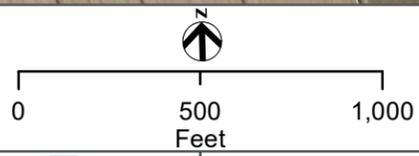
STREAM AND WETLAND IMPACT MAP
 STIP PROJECT NO. R-2574
 US 158 WIDENING FROM
 NC 34 (CAMDEN COUNTY) TO NC 168
 (CURRITUCK COUNTY), WITH
 MULTI-USE PATH FROM SR 1246
 (MAPLE ROAD) TO NC 168.

MARCH 2019



Figure 4.8

Sources: NC OneMap, Currituck County, NCDOT

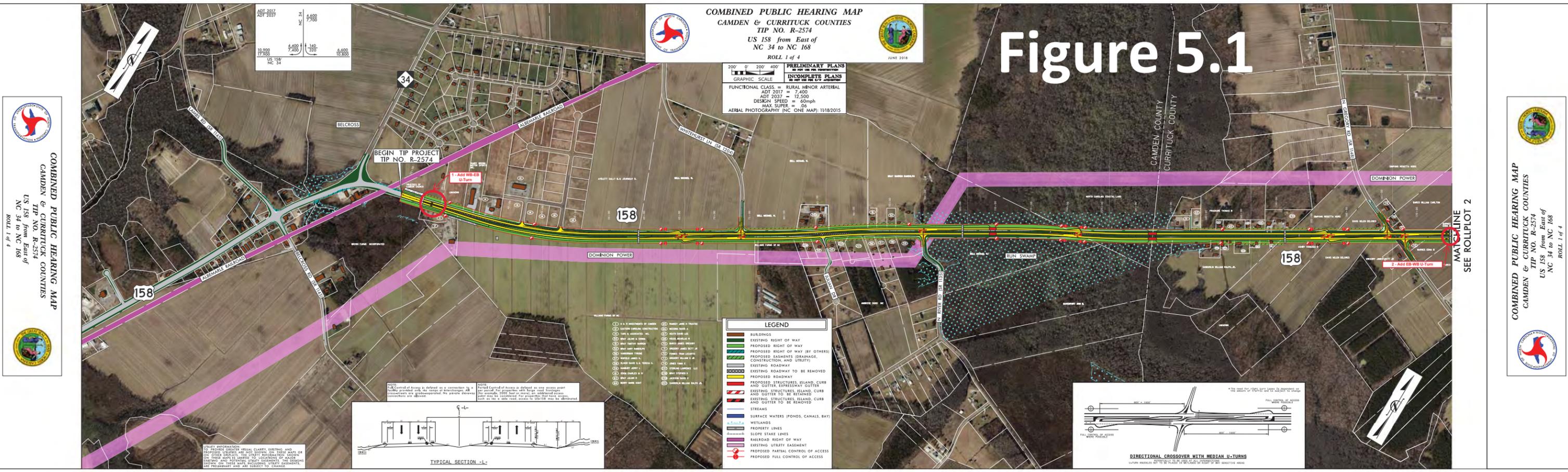


- Existing Edge of Pavement
- Tributary to Waters of the US
- Impacted Stream
- - - Slope Stakes Plus 25 Feet
- ▨ Jurisdictional Wetland
- ▨ Impacted Wetland

STREAM AND WETLAND IMPACT MAP
 STIP PROJECT NO. R-2574
 US 158 WIDENING FROM
 NC 34 (CAMDEN COUNTY) TO NC 168
 (CURRITUCK COUNTY), WITH
 MULTI-USE PATH FROM SR 1246
 (MAPLE ROAD) TO NC 168.

MARCH 2019

Figure 5.1



SEE ROLL PLOT 2

8.17.19

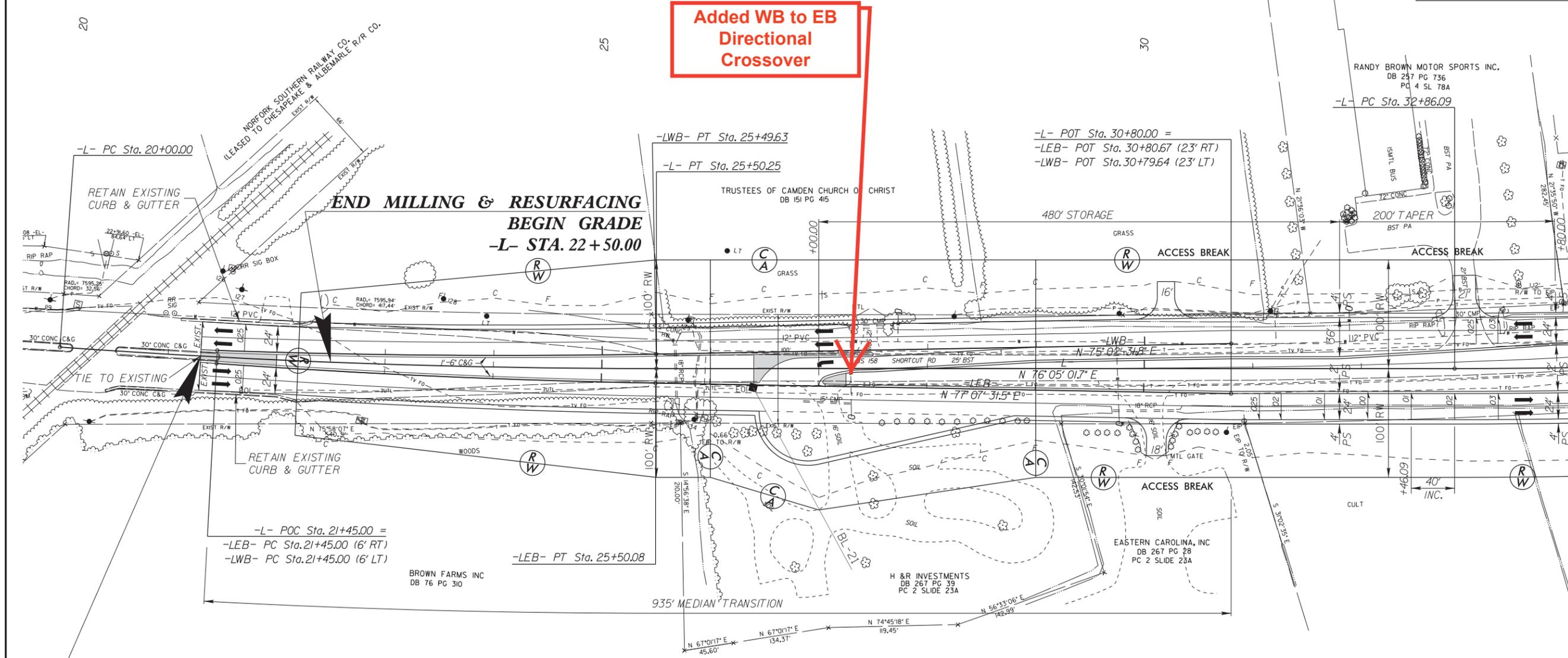
Figure 5.2

NAD 83/NA 2011

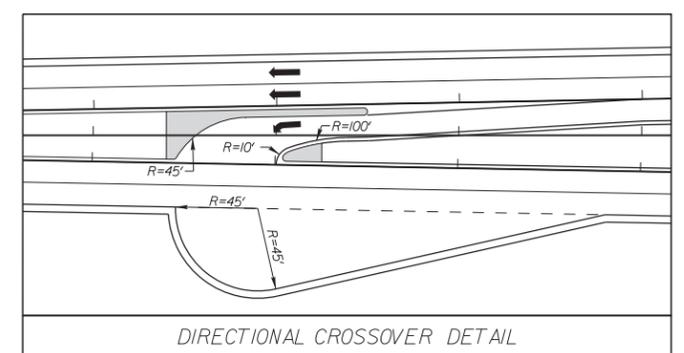
PROJECT REFERENCE NO. <i>R-2574A</i>	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Mead&Hunt <small>133 Fayetteville Street, Suite 210 Raleigh, North Carolina 27601 919-714-8870 meadandhunt.com NC License No. F-1235</small>	

-L- CURVE DATA		-LEB- CURVE DATA		-LWB- CURVE DATA	
PI Sta 22+75.24	PI Sta 42+53.74	PI Sta 23+47.59	PI Sta 23+47.36	PI Sta 23+47.36	PI Sta 23+47.36
$\Delta = 4^{\circ}07'27.0''$ (LT)	$\Delta = 16^{\circ}56'05.3''$ (LT)	$\Delta = 3^{\circ}02'23.6''$ (LT)	$\Delta = 3^{\circ}02'11.5''$ (LT)	$\Delta = 3^{\circ}02'11.5''$ (LT)	$\Delta = 3^{\circ}02'11.5''$ (LT)
$D = 0^{\circ}44'58.2''$	$D = 0^{\circ}52'53.3''$	$D = 0^{\circ}45'01.6''$	$D = 0^{\circ}45'01.6''$	$D = 0^{\circ}45'01.6''$	$D = 0^{\circ}45'01.6''$
$L = 550.25'$	$L = 1,921.19'$	$L = 405.08'$	$L = 404.63'$	$L = 404.63'$	$L = 404.63'$
$T = 275.24'$	$T = 967.65'$	$T = 202.59'$	$T = 202.36'$	$T = 202.36'$	$T = 202.36'$
$R = 7,644.46'$	$R = 6,500.00'$	$R = 7,635.00'$	$R = 7,635.00'$	$R = 7,635.00'$	$R = 7,635.00'$
$e = 0.025$	$e = 0.03$				
	$R.O. = 100'$				

Added WB to EB Directional Crossover



BEGIN TIP PROJECT R-2574A
-L- POC STA. 21+30.00
BEGIN MILLING & RESURFACING



NOTE: ALL DRIVEWAY RADII ARE 20'
 FOR -L- PROFILE, SEE SHEET 24

MATCHLINE -L- STA. 34 + 00 SEE SHEET 5

REVISIONS

20-AUG-2018 16:40
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 Z139fac

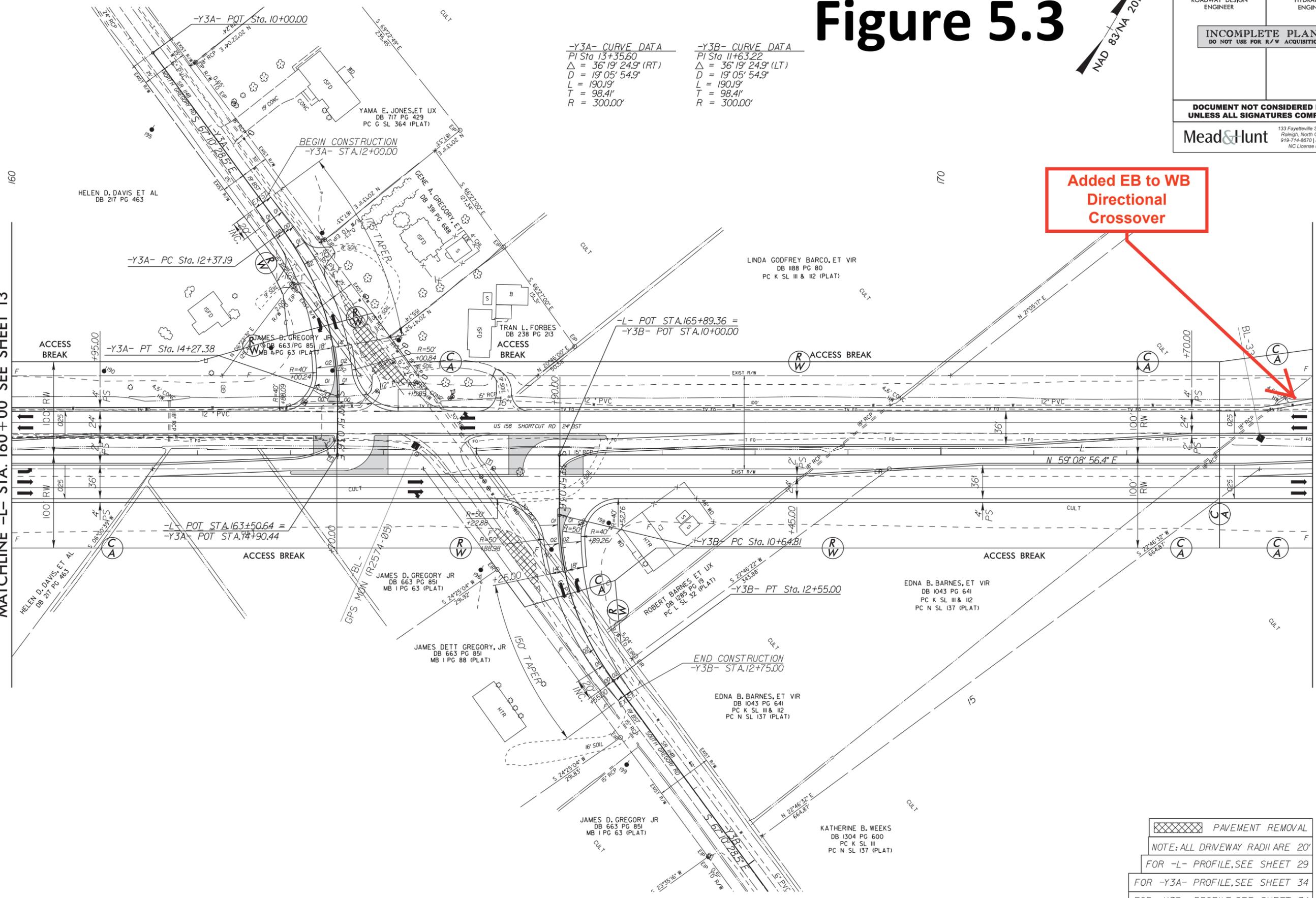
8/17/98

REVISIONS

20-AUG-2018 16:40
R:\Roadway\Proj\2574A_Rdy_psh_14.dgn
Z139fac

MATCHLINE -L- STA. 160 + 00 SEE SHEET 13

MATCHLINE -L- STA. 174 + 00 SEE SHEET 15



-Y3A- CURVE DATA	-Y3B- CURVE DATA
PI Sta 13+35.60	PI Sta 11+63.22
$\Delta = 36^{\circ}19'24.9"$ (RT)	$\Delta = 36^{\circ}19'24.9"$ (LT)
$D = 19^{\circ}05'54.9"$	$D = 19^{\circ}05'54.9"$
$L = 190.19'$	$L = 190.19'$
$T = 98.41'$	$T = 98.41'$
$R = 300.00'$	$R = 300.00'$

Figure 5.3



PROJECT REFERENCE NO. R-2574A	SHEET NO. 14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Mead&Hunt <small>133 Fayetteville Street, Suite 210 Raleigh, North Carolina 27601 919-714-8870 meadhunt.com NC License No. F-1235</small>	

Added EB to WB
Directional
Crossover

PAVEMENT REMOVAL

NOTE: ALL DRIVEWAY RADII ARE 20'

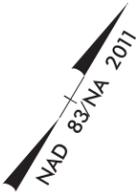
FOR -L- PROFILE, SEE SHEET 29

FOR -Y3A- PROFILE, SEE SHEET 34

FOR -Y3B- PROFILE, SEE SHEET 34

8/17/96

Figure 5.4

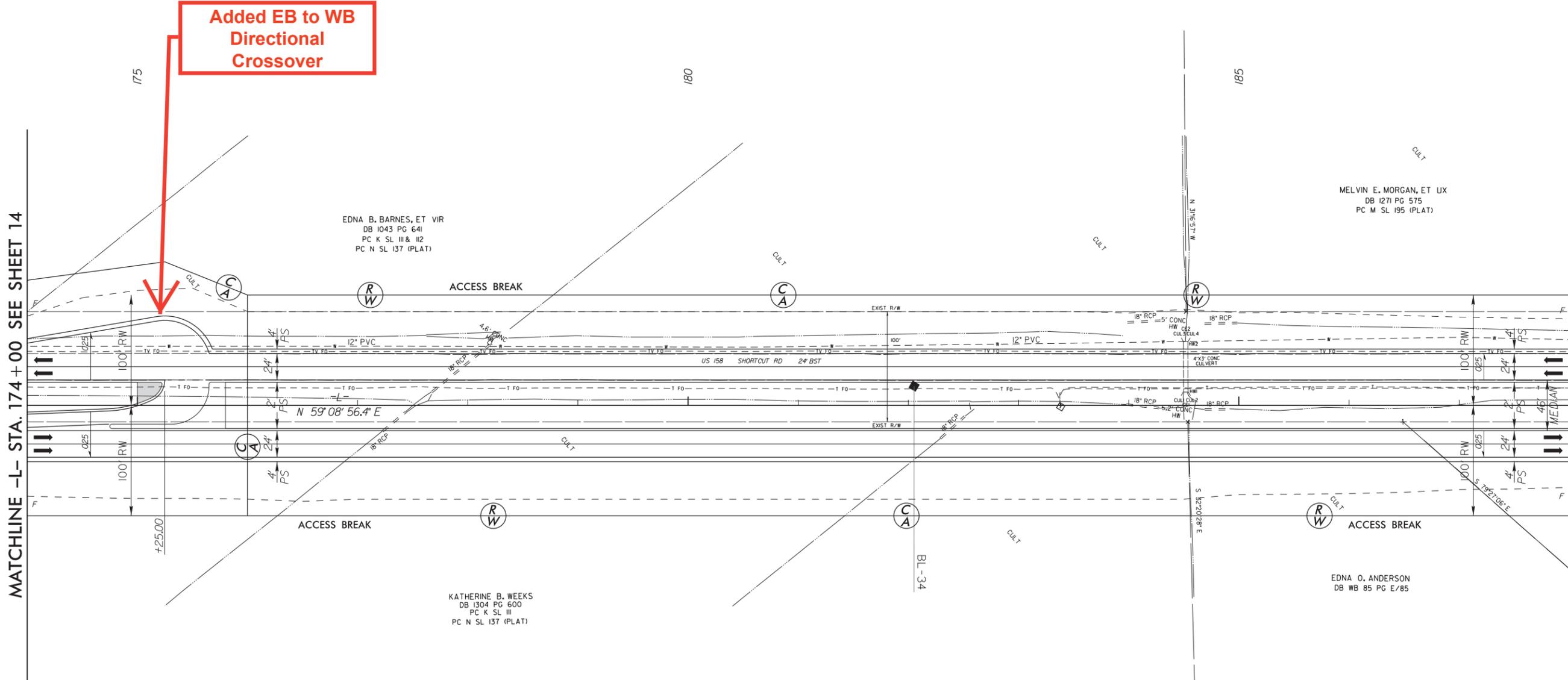


PROJECT REFERENCE NO. <i>R-2574A</i>		SHEET NO. 15	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
Mead&Hunt		133 Fayetteville Street, Suite 210 Raleigh, North Carolina 27601 919-714-8670 meadandhunt.com NC License No. F-1235	

REVISIONS

MATCHLINE -L- STA. 174 + 00 SEE SHEET 14

MATCHLINE -L- STA. 188 + 00 SEE SHEET 16



20-AUG-2018 16:40
R:\Roadway\Proj\R2574A_Rdy_psh_15.dgn
Z139fac

NOTE: ALL DRIVEWAY RADII ARE 20'
FOR -L- PROFILE, SEE SHEET 29

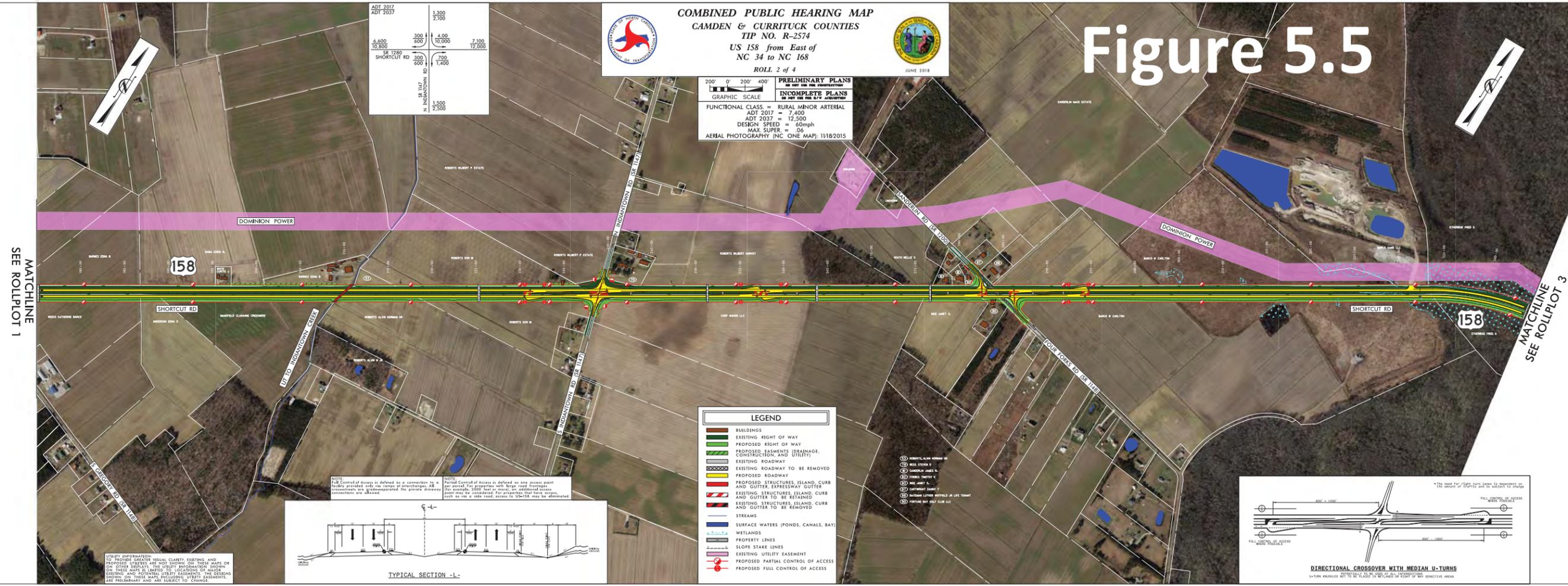
Figure 5.5



COMBINED PUBLIC HEARING MAP
 CAMDEN & CURRITUCK COUNTIES
 TIP NO. R-2574
 US 158 from East of
 NC 34 to NC 168
 ROLL 2 of 4




COMBINED PUBLIC HEARING MAP
 CAMDEN & CURRITUCK COUNTIES
 TIP NO. R-2574
 US 158 from East of
 NC 34 to NC 168
 ROLL 2 of 4

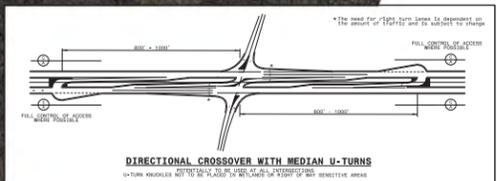
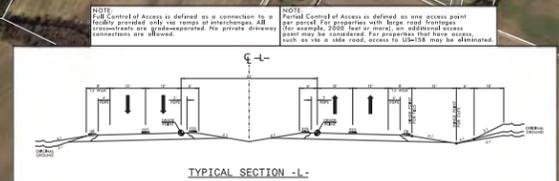
ADT 2017	1,300	2,100
ADT 2037	4,400	7,100
SR 1280 SHORTCUT RD	10,800	10,000
SR 1147	300	700
SR 1147	400	1,400
SR 1147	500	1,500
SR 1147	600	2,300


COMBINED PUBLIC HEARING MAP
 CAMDEN & CURRITUCK COUNTIES
 TIP NO. R-2574
 US 158 from East of
 NC 34 to NC 168
 ROLL 2 of 4

 JUNE 2018

PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
 DO NOT USE FOR R/F/A ACQUISITION
 GRAPHIC SCALE: 200' 0" 200' 400'
 FUNCTIONAL CLASS = RURAL MINOR ARTERIAL
 ADT 2017 = 7,400
 ADT 2037 = 12,500
 DESIGN SPEED = 60mph
 MAX SUPER = .06
 AERIAL PHOTOGRAPHY (NC ONE MAP): 11/18/2015

- LEGEND**
- BUILDINGS
 - EXISTING RIGHT OF WAY
 - PROPOSED RIGHT OF WAY
 - PROPOSED EASEMENTS (DRAINAGE, CONSTRUCTION AND UTILITY)
 - EXISTING ROADWAY
 - EXISTING ROADWAY TO BE REMOVED
 - PROPOSED ROADWAY
 - PROPOSED STRUCTURES, ISLAND, CURB AND GUTTER, EXPRESSWAY GUTTER
 - EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE REMOVED
 - EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE RETAINED
 - STREAMS
 - SURFACE WATERS (PONDS, CANALS, BAY)
 - WETLANDS
 - PROPERTY LINES
 - SLOPE STAKE LINES
 - EXISTING UTILITY EASEMENT
 - PROPOSED PARTIAL CONTROL OF ACCESS
 - PROPOSED FULL CONTROL OF ACCESS



UTILITY INFORMATION:
 TO PREVENT EXCESSIVE VISUAL CLASHES, EXISTING AND PROPOSED UTILITIES ARE NOT SHOWN ON THESE MAPS OR ON OTHER DISPLAYS. THE UTILITY INFORMATION SHOWN ON THESE MAPS IS LIMITED TO LOCATIONS OF MAJOR EXISTING AND POTENTIAL UTILITY EASEMENTS. THE DESIGNS SHOWN ON THESE MAPS, INCLUDING UTILITY EASEMENTS, ARE PRELIMINARY AND ARE SUBJECT TO CHANGE.

NOTE: Full Control of Access is defined as a connection to a facility provided only via ramps at interchanges. All connections are fully controlled and the private driveway connections are allowed.
NOTE: Partial Control of Access is defined as one access point per parcel for properties with large road frontages. In some cases, 2000' Area of Impact, an additional access point may be considered for properties that have access both as to a side road access to US-158 may be eliminated.

MATCHLINE
SEE ROLL PLOT 1

MATCHLINE
SEE ROLL PLOT 3

Figure 5.6



COMBINED PUBLIC HEARING MAP
CAMDEN & CURRITUCK COUNTIES
TIP NO. R-2574
US 158 from East of NC 34 to NC 168
ROLL 3 of 4

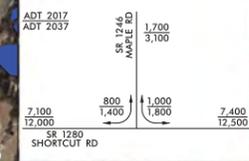


JUNE 2018

PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

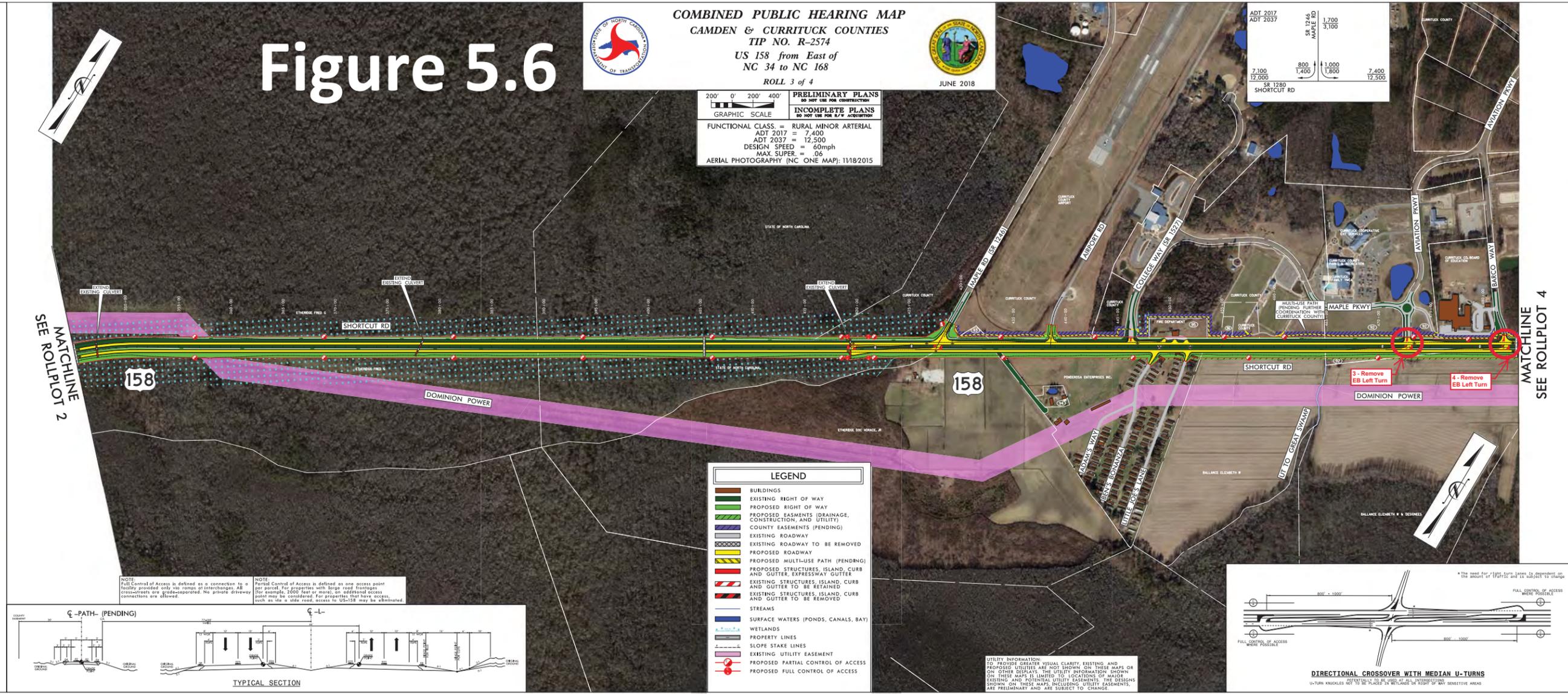
INCOMPLETE PLANS
 DO NOT USE FOR R/L'S ACQUISITION

FUNCTIONAL CLASS = RURAL MINOR ARTERIAL
 ADT 2017 = 7,400
 ADT 2037 = 12,500
 DESIGN SPEED = 60mph
 MAX SUPER = .06
 AERIAL PHOTOGRAPHY (NC ONE MAP): 11/18/2015



COMBINED PUBLIC HEARING MAP
CAMDEN & CURRITUCK COUNTIES
TIP NO. R-2574
US 158 from East of NC 34 to NC 168
ROLL 3 of 4

COMBINED PUBLIC HEARING MAP
CAMDEN & CURRITUCK COUNTIES
TIP NO. R-2574
US 158 from East of NC 34 to NC 168
ROLL 3 of 4



8/17/09



Prepared in the Office of:
JOHNSON, MIRMIRAN, & THOMPSON, INC.
1130 Situs Court, Suite 200, Raleigh NC, 27606

PROJECT REFERENCE NO. R-2574B	SHEET NO. 16
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DO NOT CONSIDER FINAL
ALL SIGNATURES COMPLETED

Figure 5.7



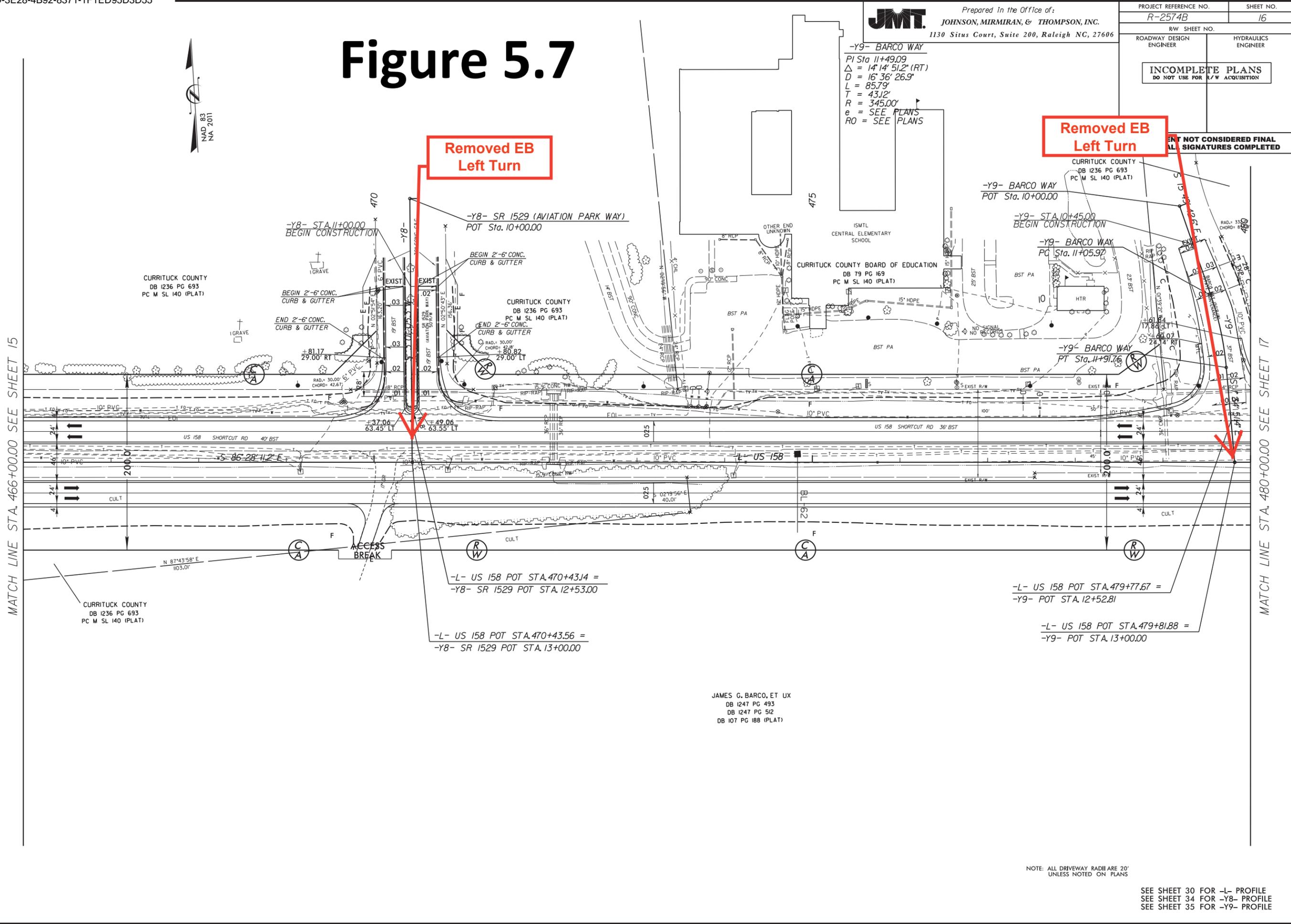
Removed EB Left Turn

Removed EB Left Turn

-Y9- BARCO WAY
 PI Sta 11+49.09
 $\Delta = 14' 14" 51.2" (RT)$
 $D = 16' 36" 26.9"$
 $L = 85.79'$
 $T = 43.12'$
 $R = 345.00'$
 $e = \text{SEE PLANS}$
 $RO = \text{SEE PLANS}$

MATCH LINE STA. 466+00.00 SEE SHEET 15

MATCH LINE STA. 480+00.00 SEE SHEET 17



REVISIONS

8/23/2018
8:17:09
R2574B_rdy_psh_16.dgn
jst

JAMES G. BARCO, ET UX
DB 1247 PG 493
DB 1247 PG 512
DB 107 PG 188 (PLAT)

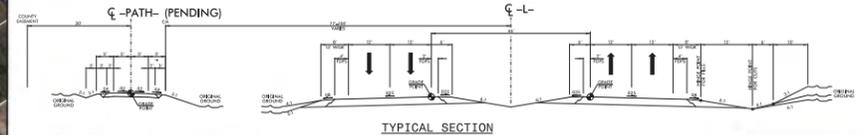
NOTE: ALL DRIVEWAY RADII ARE 20'
UNLESS NOTED ON PLANS

SEE SHEET 30 FOR -L- PROFILE
SEE SHEET 34 FOR -Y8- PROFILE
SEE SHEET 35 FOR -Y9- PROFILE

Figure 5.8



COMBINED PUBLIC HEARING MAP CAMDEN & CURRITUCK COUNTIES TIP NO. R-2574 US 158 from East of NC 34 to NC 168 ROLL 4 of 4



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/S ACQUISITION

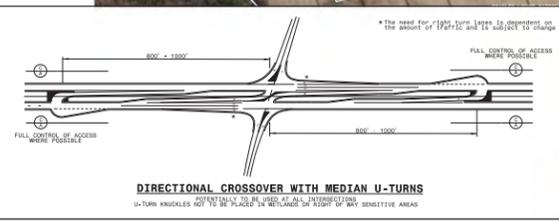
FUNCTIONAL CLASS = RURAL MINOR ARTERIAL
ADT 2017 = 7,400
ADT 2037 = 12,500
DESIGN SPEED = 60mph
MAX. SUPER. = .06
AERIAL PHOTOGRAPHY (NC ONE MAP): 11/18/2015

NOTE: Full Control of Access is defined as a connection to a facility provided only to users of interchanges. All cross-streets are grade-separated. No private driveway connections are allowed.

NOTE: Partial Control of Access is defined as one access point per parcel. For properties with large road frontages (for example, 2000 feet or more), an additional access point may be considered. For properties that have access such as to a side road, access to US-158 may be eliminated.

COMBINED PUBLIC HEARING MAP
CAMDEN & CURRITUCK COUNTIES
TIP NO. R-2574
US 158 from East of
NC 34 to NC 168
ROLL 4 of 4

COMBINED PUBLIC HEARING MAP
CAMDEN & CURRITUCK COUNTIES
TIP NO. R-2574
US 158 from East of
NC 34 to NC 168
ROLL 4 of 4



UTILITY INFORMATION:
TO PROVIDE GREATER VISUAL CLARITY, EXISTING AND PROPOSED UTILITIES ARE NOT SHOWN ON THESE MAPS OR ON OTHER DISPLAYS. THE UTILITY INFORMATION SHOWN ON THESE MAPS IS LIMITED TO LOCATIONS OF MAJOR EXISTING AND POTENTIAL UTILITY EASEMENTS. THE DESIGNS SHOWN ON THESE MAPS, INCLUDING UTILITY EASEMENTS, ARE PRELIMINARY AND ARE SUBJECT TO CHANGE.

	ADT 2017	ADT 2037	
	7,400	12,500	NC 168
	1,100	1,900	
	6,200	10,400	US 158
	20,300	34,300	US 158

8/17/09

Figure 5.9



Prepared in the Office of:
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1130 Situs Court, Suite 200, Raleigh NC, 27606

PROJECT REFERENCE NO. R-2574B		SHEET NO. 17	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

JOSEPH C. POPE, ET UX
DB 821 PG 683
PC H SL 136 (PLAT)

RODNEY K. YOUNG, ET UT
DB 1123 PG 202
PC H SL 136 (PLAT)

MIDWEST BANK
DB 1301 PG 239
PC H SL 136 (PLAT)

KENNETH F. WILSON, ET UX
DB 915 PG 719
PC H SL 136 (PLAT)

CURRITUCK COUNTY
DB 1236 PG 693
PC M SL 140 (PLAT)

Added EB Directional Crossover

-L- US 158 PC Sta. 486+66.66

-L- US 158 PRC Sta. 492+58.03

MATCH LINE STA. 480+00.00 SEE SHEET 16

MATCH LINE STA. 494+00.00 SEE SHEET 18

REVISIONS

-L- US 158	
PI Sta 489+62.69	PI Sta 495+54.05
$\Delta = 6' 47" 24.3" (LT)$	$\Delta = 6' 47" 24.3" (RT)$
$D = 1' 08" 53.6"$	$D = 1' 08" 53.6"$
$L = 591.36'$	$L = 591.36'$
$T = 296.03'$	$T = 296.03'$
$R = 4990.00'$	$R = 4990.00'$
$e = 0.030$	$e = 0.030$
$RO = 120'$	$RO = 120'$

CARL S. STAPLES
DB 1228 PG 937
WILL 93-E-29

NOTE: ALL DRIVEWAY RADII ARE 20' UNLESS NOTED ON PLANS

SEE SHEET 30 FOR -L- PROFILE
SEE SHEET 34 FOR -Y9- PROFILE

8/23/2018
R:\2574B_rdy_psh_17.dgn
jstaples

APPENDIX C

CORRESPONDENCE

Merger Team Agreements
CP 3 – LEDPA
CP4A – Avoidance and Minimization

NEPA/404 MERGER TEAM AGREEMENT

Concurrence Point No. 3: *Least Environmentally Damaging Practicable Alternative (LEDPA)*

PROJECT DESCRIPTION:

US 158 (Shortcut Road) widening from east of NC 34 (Shawboro Road) to NC 168 (Caratoke Highway)
 Camden and Currituck Counties
 STIP Project Nos. R-2574

Least Environmentally Damaging Practicable Alternative (LEDPA):

No Build Yes No

Build Alternative 1 Yes No

Best Fit Widening Along Existing US 158 as follows:

Section Number	Length (miles)	Least Environmentally Damaging Practicable Alternative	
		South Side	Best Fit
1	1.5	✓	
2	0.7		✓
3	3.5		✓
4	1.4	✓	
5	1.1	✓	
6	1.6		✓

The Project Team has concurred on Alternative 1 as the LEDPA for the proposed project as noted above.

NEPA/404 MERGER TEAM AGREEMENT
Concurrence Point No. 3: *Least Environmentally Damaging Practicable Alternative (LEDPA)*

Agency Signature

Date

Agency Signature

Date

Kyle Barnes

4/17/2019

Amanetta Somerville

4/23/2019

US Army Corps of Engineers

US Environmental Protection Agency

Gary Jordan

4/17/2019

S. P. W.

4/17/2019

US Fish and Wildlife Service

NC Wildlife Resources Commission

Fancy Ward

4/17/19

Renee Medhill-Earley

4/18/19

NC Division of Water Resources

NC Department of Natural and Cultural Resources

Cathy Brittingham

4/22/2019

Nicole J. Necker

4/17/19

NC Division of Coastal Management

NC Department of Transportation

Fritz Rohde

5/24/2019

Angela Welsh

4/18/2019

National Marine Fisheries Service

Albemarle Commission (RPO)

NEPA/404 MERGER TEAM AGREEMENT

Concurrence Point No. 4A: *Avoidance and Minimization Measures*

PROJECT DESCRIPTION:

US 158 (Shortcut Road) widening from east of NC 34 (Shawboro Road) to NC 168 (Caratoke Highway)
 Camden and Currituck Counties
 STIP Project Nos. R-2574

Avoidance and Minimization – Build Alternative – Best-Fit Widening Along Existing US 158

Avoidance and Minimization measures are described for the jurisdictional resources in the Concurrence Point (CP) 4A Merger packet. General measures are listed below, and have been incorporated into the project design along the project corridor where possible. Additional detail can be found in the Merger packet.

- Proposed best-fit widening to avoid/minimize impacts to resources where possible.
- Narrow median widths to minimize impacts to adjacent resources.
- Balanced impacts to the human and natural environment.

Additional minimization may be achieved during final design, when hydraulic design (CP 4B and 4C) and utility relocation design commence.

The Project Team concurred on this date of 4/17/2019 on the Avoidance and Minimization measures that have been incorporated into the project design to date, as described in detail in the CP 4A Merger packet.

<u>Agency Signature</u>	<u>Date</u>	<u>Agency Signature</u>	<u>Date</u>
<u>Kyle Barnes</u>	<u>4/17/2019</u>	<u>Amanetta Somerville</u>	<u>4/23/2019</u>
US Army Corps of Engineers		US Environmental Protection Agency	
<u>Gary Jordan</u>	<u>4/17/2019</u>	<u>S. R. W.</u>	<u>4/17/2019</u>
US Fish and Wildlife Service		NC Wildlife Resources Commission	
<u>Berney Ward</u>	<u>4/17/19</u>		
NC Division of Water Resources		NC Department of Natural and Cultural Resources	
<u>Cathy Brittingham</u>	<u>4/22/2019</u>	<u>Nick J. Krupar</u>	<u>4/17/19</u>
NC Division of Coastal Management		NC Department of Transportation	
<u>Fritz Rohde</u>	<u>5/24/2019</u>	<u>Angela Welsh</u>	<u>4/18/2019</u>
National Marine Fisheries Service		Albemarle Commission (RPO)	